

FIG. 1-1

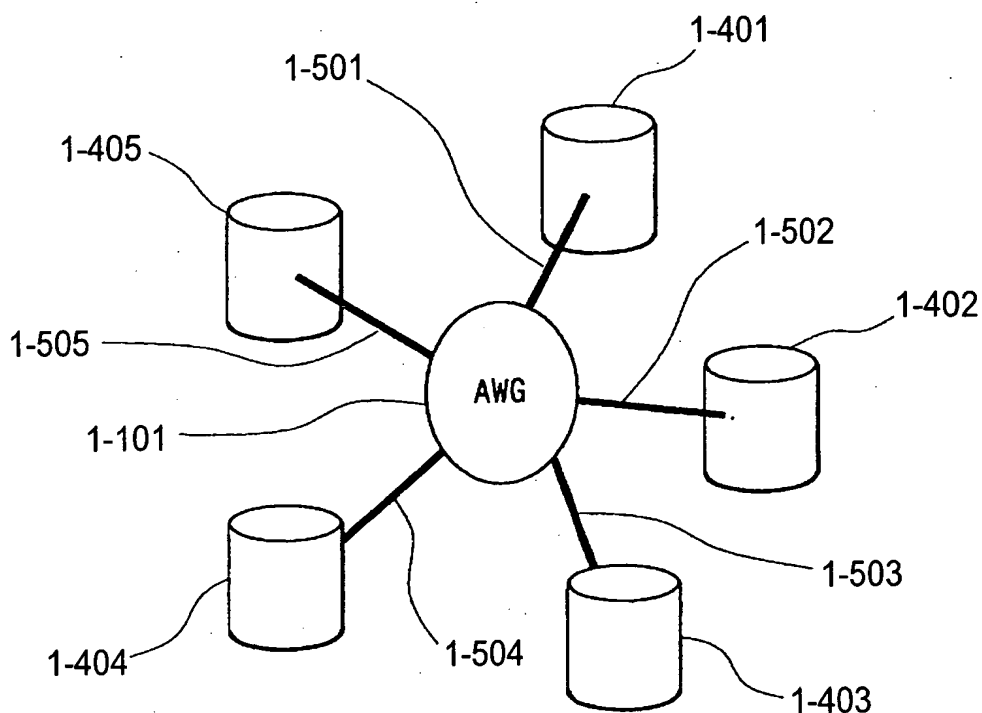


FIG. 1-2

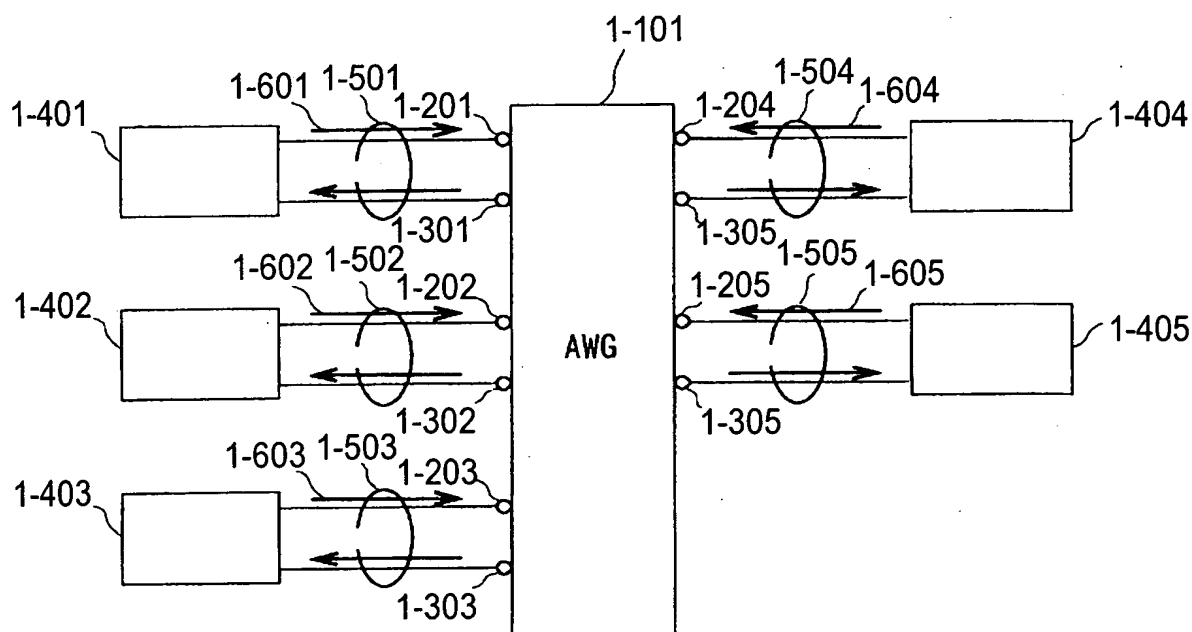
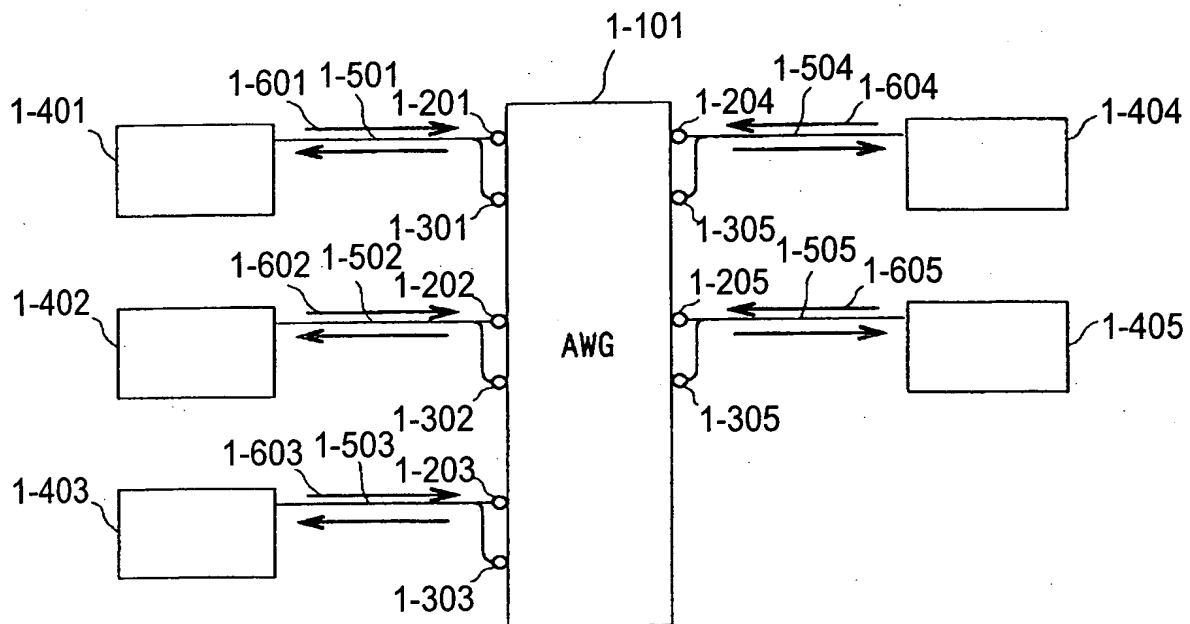


FIG. 1-3



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FIG. 1-4

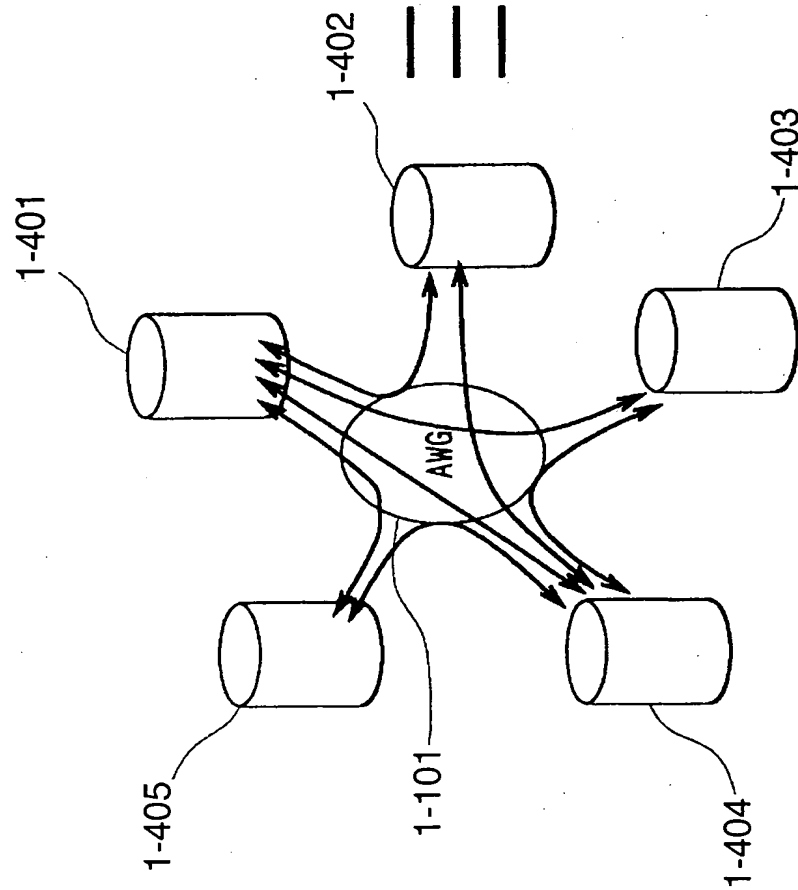
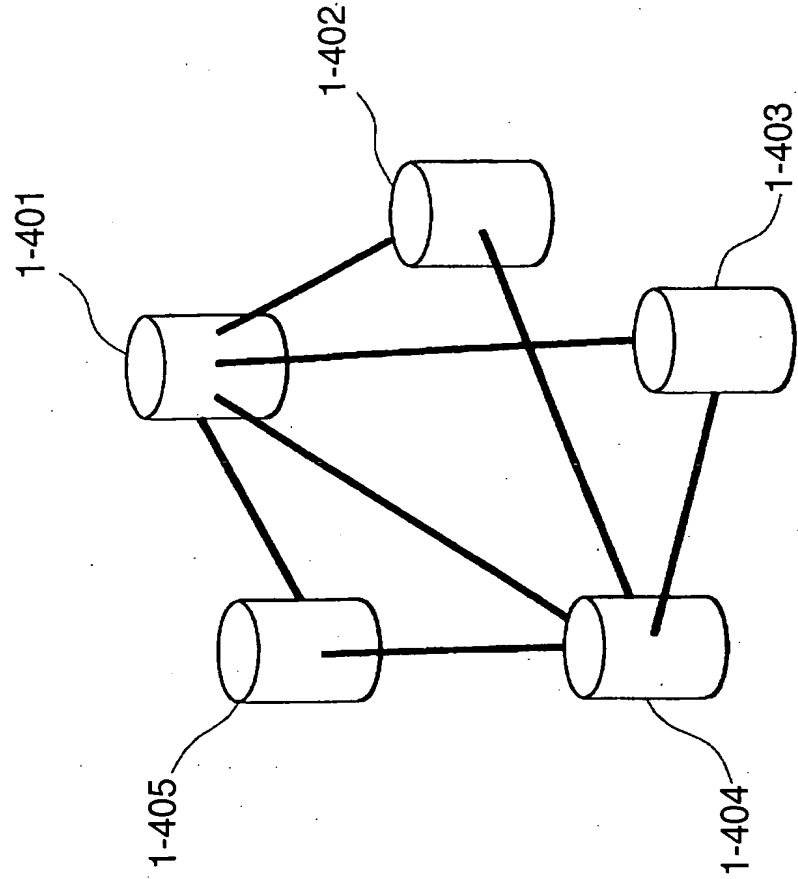


IMAGE OF OPTICAL SIGNAL ROUTE (WAVELENGTH PATH)



LOGICAL NETWORK TOPOLOGY STRUCTURE OF OPTICAL SIGNAL ROUTE

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FIG. 1-5

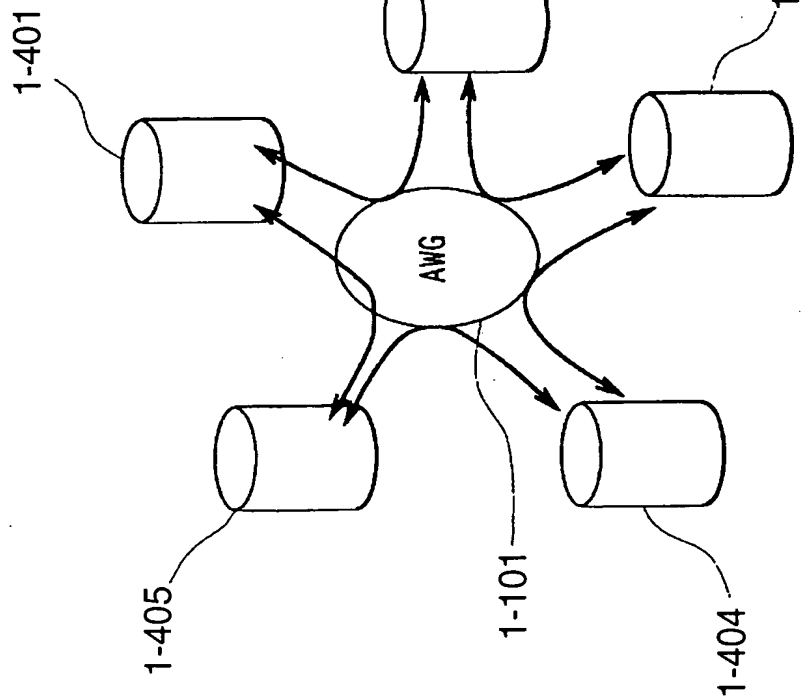
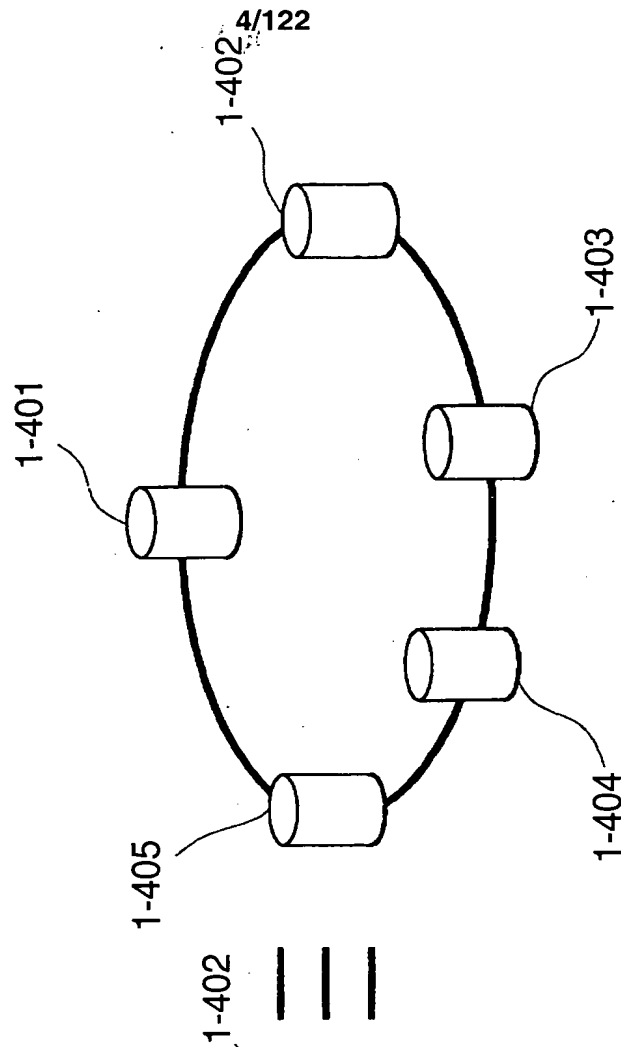


IMAGE OF OPTICAL SIGNAL ROUTE (WAVELENGTH PATH)



LOGICAL NETWORK TOPOLOGY STRUCTURE OF OPTICAL SIGNAL ROUTE

FIG. 1-6

		OPTICAL OUTPUT PORT				
		1-301	1-302	1-303	1-304	1-305
OPTICAL INPUT PORT	1-201	$\lambda_1$	$\lambda_2$	$\lambda_3$	$\lambda_4$	$\lambda_5$
	1-202	$\lambda_5$	$\lambda_1$	$\lambda_2$	$\lambda_3$	$\lambda_4$
	1-203	$\lambda_4$	$\lambda_5$	$\lambda_1$	$\lambda_2$	$\lambda_3$
	1-204	$\lambda_3$	$\lambda_4$	$\lambda_5$	$\lambda_1$	$\lambda_2$
	1-205	$\lambda_2$	$\lambda_3$	$\lambda_4$	$\lambda_5$	$\lambda_1$

STAR(MESH)-SHAPED LOGICAL NETWORK TOPOLOGY

FIG. 1-7

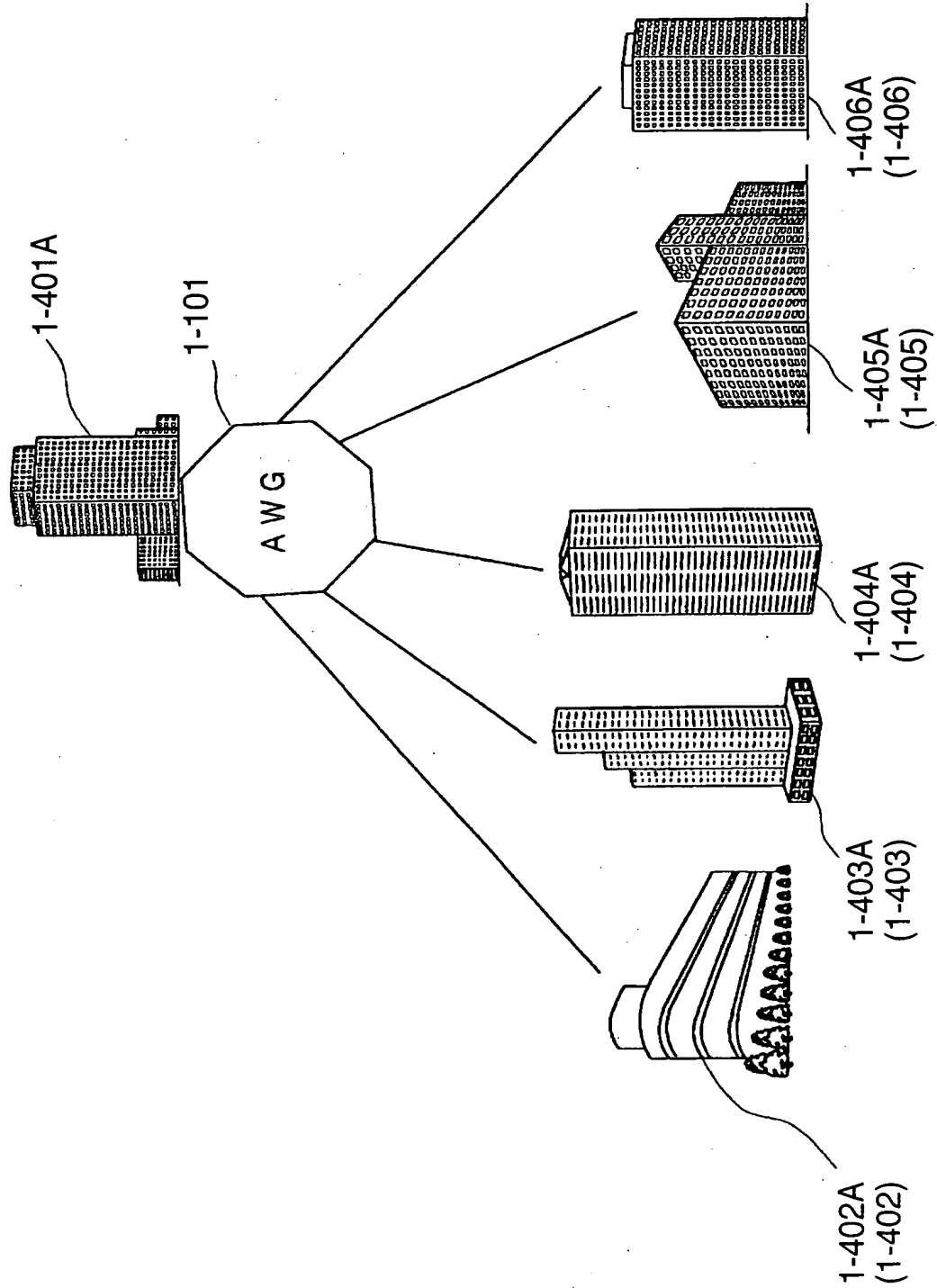
		OPTICAL OUTPUT PORT				
		1-301	1-302	1-303	1-304	1-305
OPTICAL INPUT PORT	1-201	$\lambda_1$	$\lambda_2$	$\lambda_3$	$\lambda_4$	$\lambda_5$
	1-202	$\lambda_5$	$\lambda_1$	$\lambda_2$	$\lambda_3$	$\lambda_4$
	1-203	$\lambda_4$	$\lambda_5$	$\lambda_1$	$\lambda_2$	$\lambda_3$
	1-204	$\lambda_3$	$\lambda_4$	$\lambda_5$	$\lambda_1$	$\lambda_2$
	1-205	$\lambda_2$	$\lambda_3$	$\lambda_4$	$\lambda_5$	$\lambda_1$

RING-SHAPED LOGICAL NETWORK TOPOLOGY

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FIG. 1-8



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FIG. 1-9

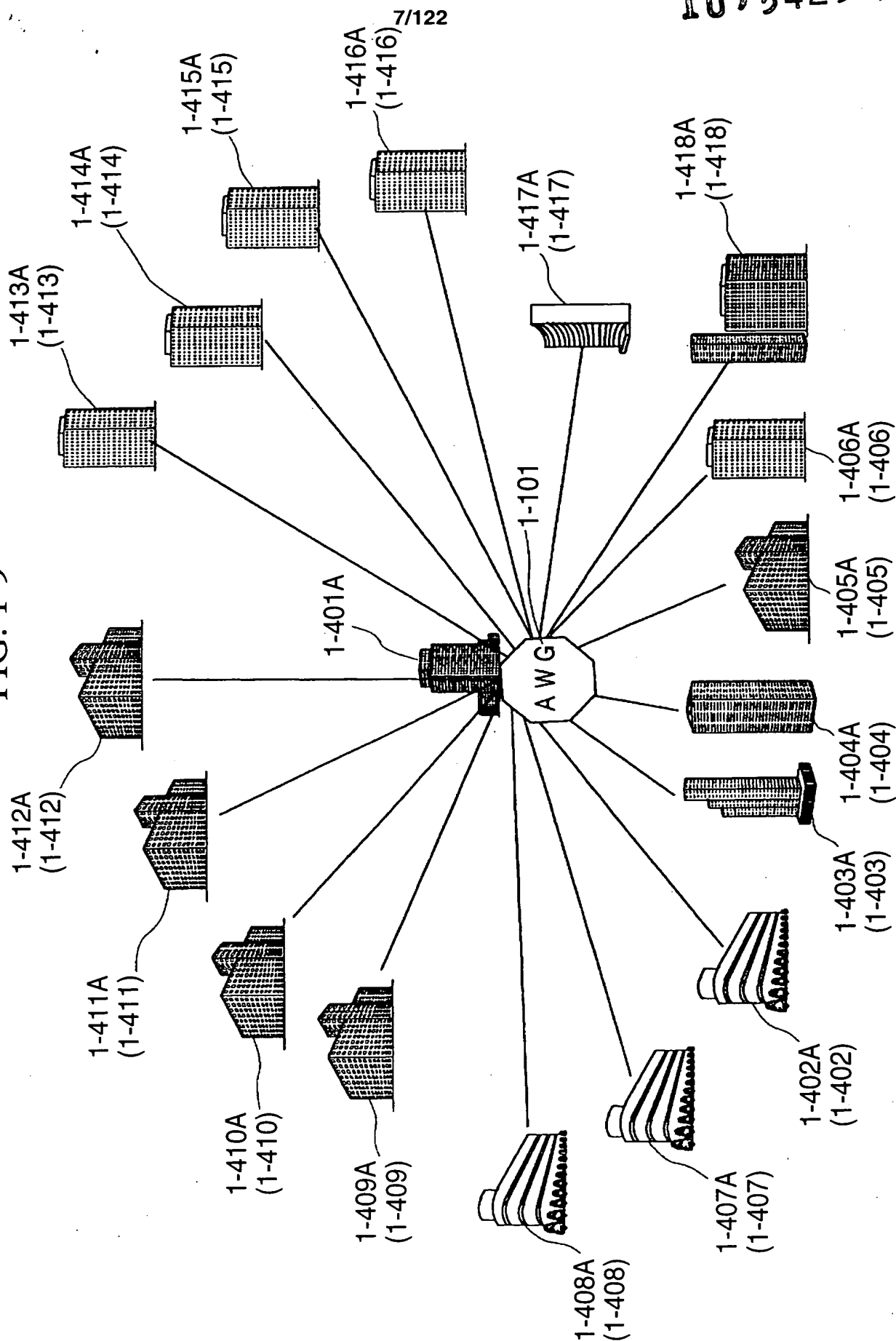


FIG. 1-10

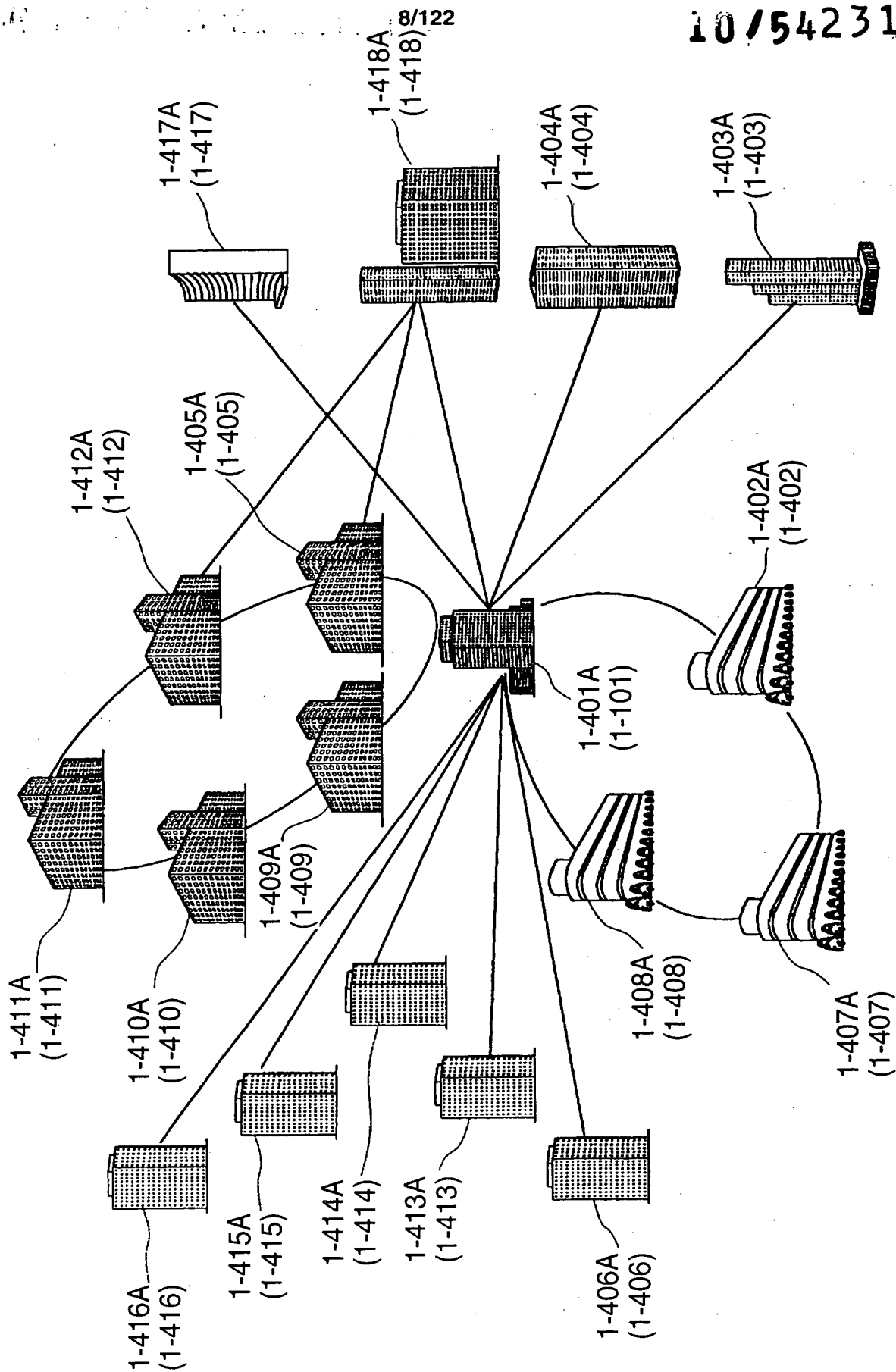
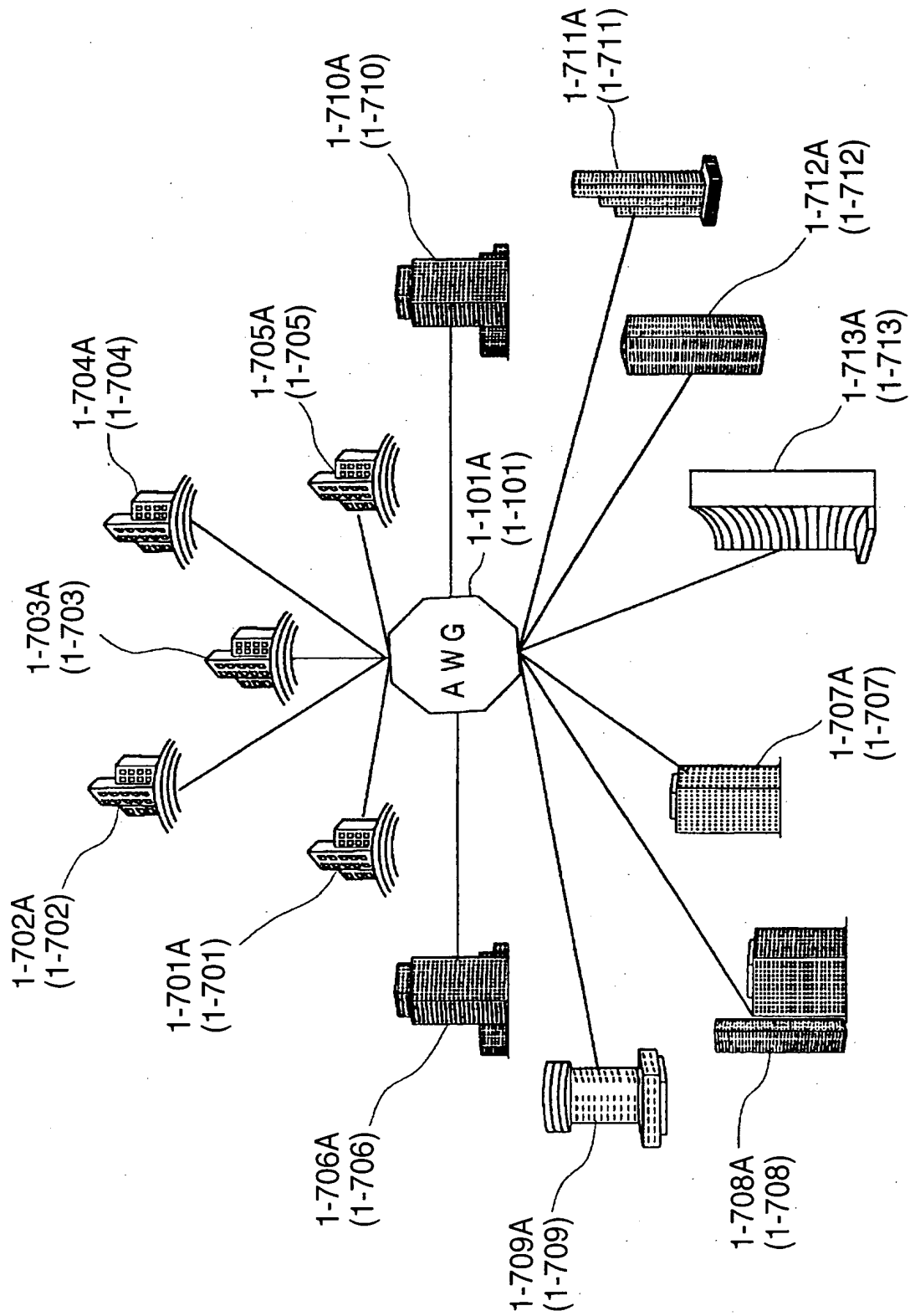




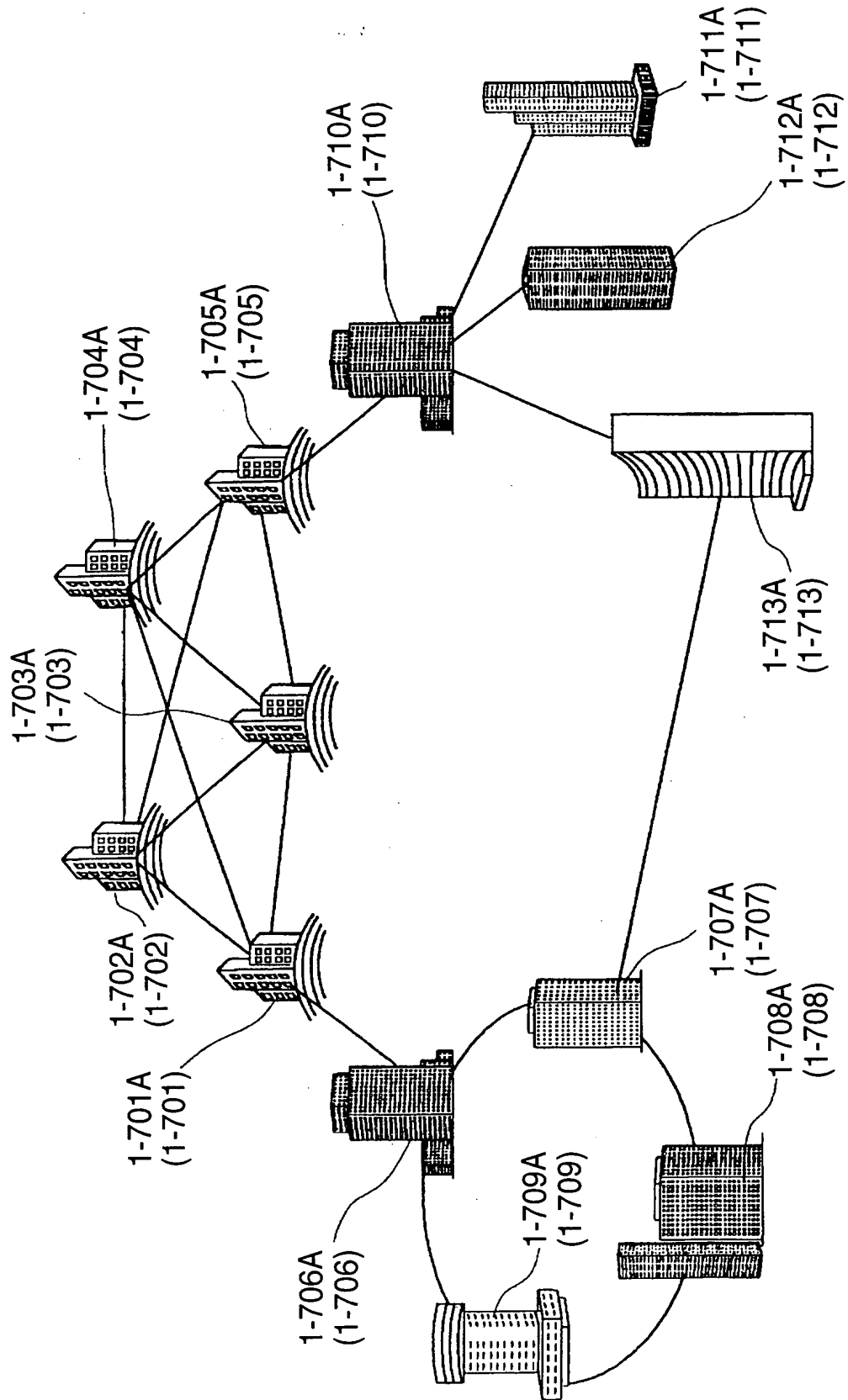
FIG. 1-11



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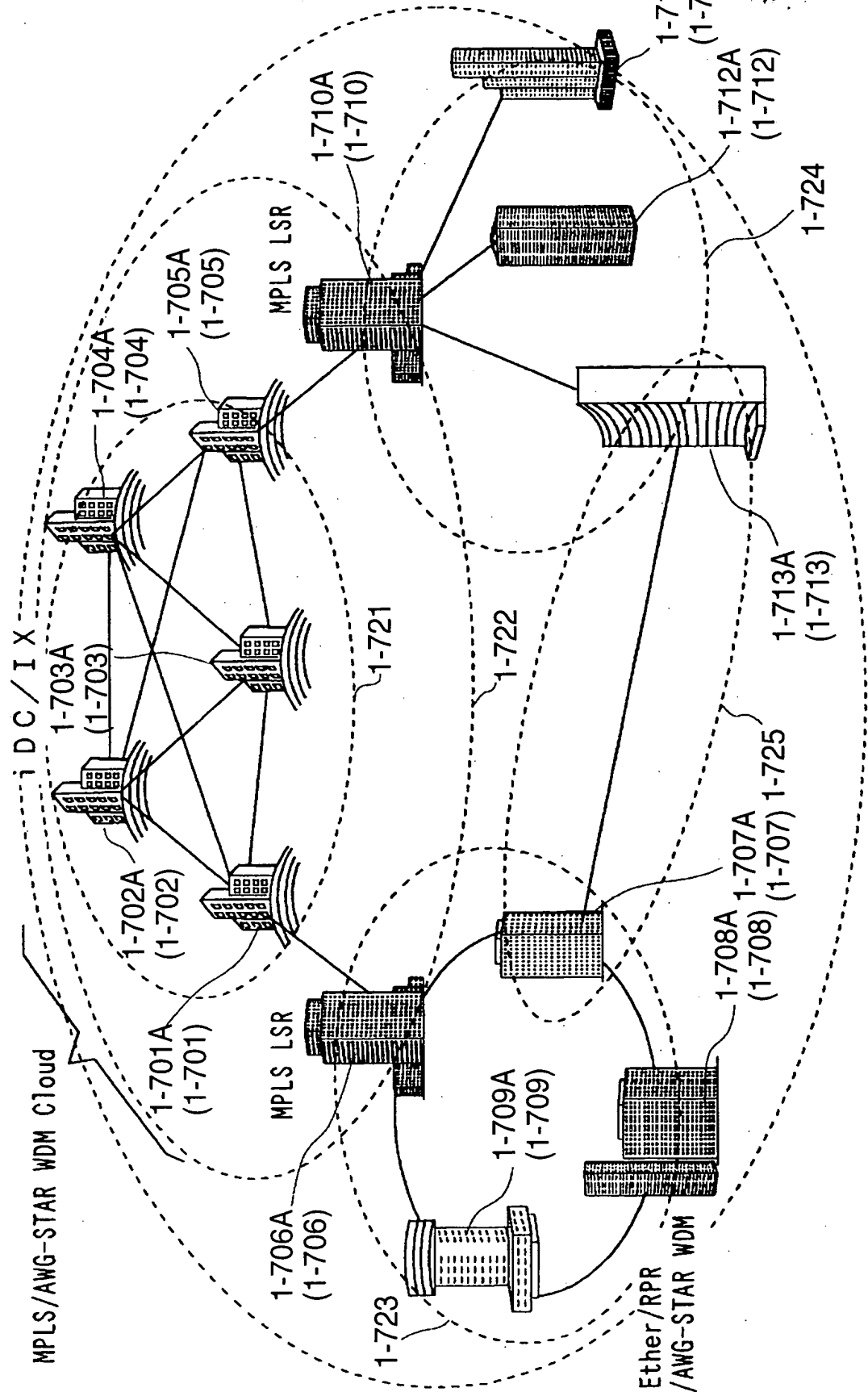
FIG. 1-12



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FIG. 1-13



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FIG. 1-14

SPECIFIC NUMBER OF NETWORK-NODE EQUIPMENT	OPTICAL OUTPUT PORT															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$
2	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$
3	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$
4	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$
5	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$
6	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$
7	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$
8	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$
9	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$
10	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$
11	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$
12	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$
13	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$
14	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$
15	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$
16	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$

OPTICAL INPUT PORT

FIG. 1-15

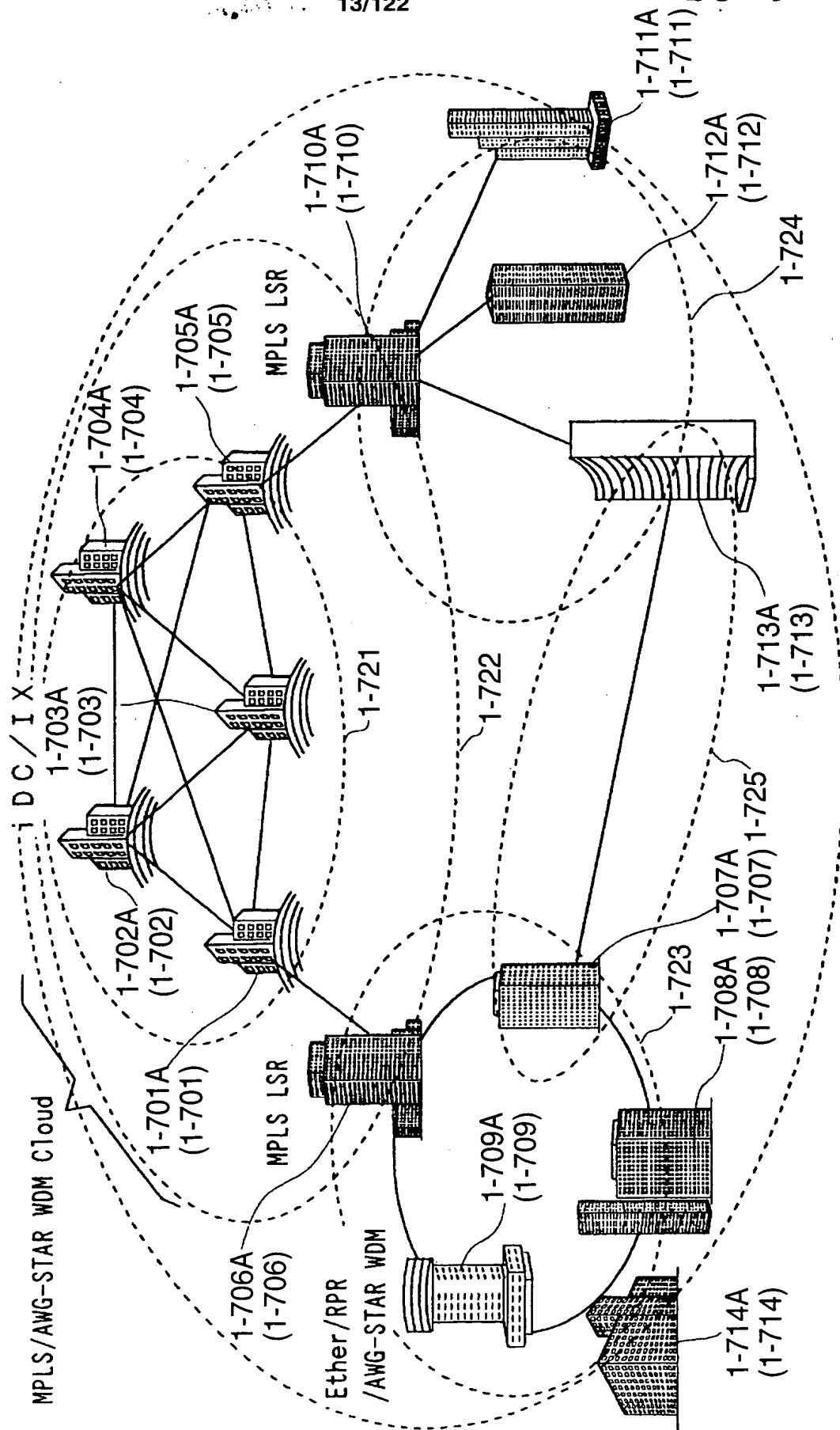


FIG. 1-16

OPTICAL OUTPUT PORT

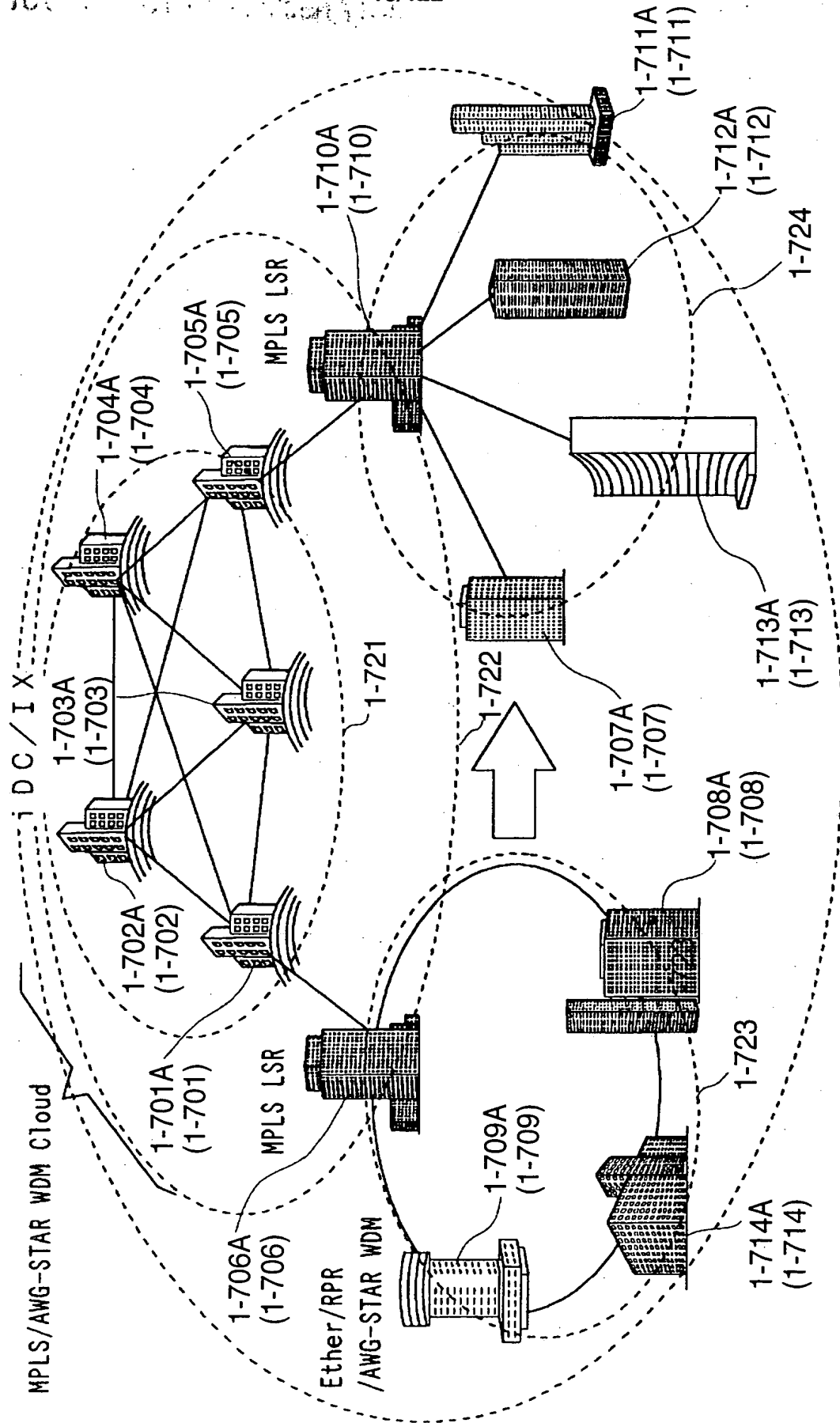
SPECIFIC NUMBER OF NETWORK-NODE EQUIPMENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$
2	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$
3	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$
4	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$
5	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$
6	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$
7	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$
8	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$
9	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$
10	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$
11	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$
12	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$
13	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$
14	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$
15	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$
16	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$

OPTICAL INPUT PORT

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FIG. 1-17



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FIG. 1-18

OPTICAL OUTPUT PORT

SPECIFIC NUMBER OF NETWORK-NODE EQUIPMENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$
2	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$
3	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$
4	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$
5	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$
6	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$
7	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$
8	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$
9	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$
10	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$
11	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$
12	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$
13	$\lambda 13$	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$
14	$\lambda 14$	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$
15	$\lambda 15$	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$
16	$\lambda 16$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$	$\lambda 10$	$\lambda 11$	$\lambda 12$	$\lambda 13$	$\lambda 14$	$\lambda 15$

OPTICAL INPUT PORT



FIG. 1-19

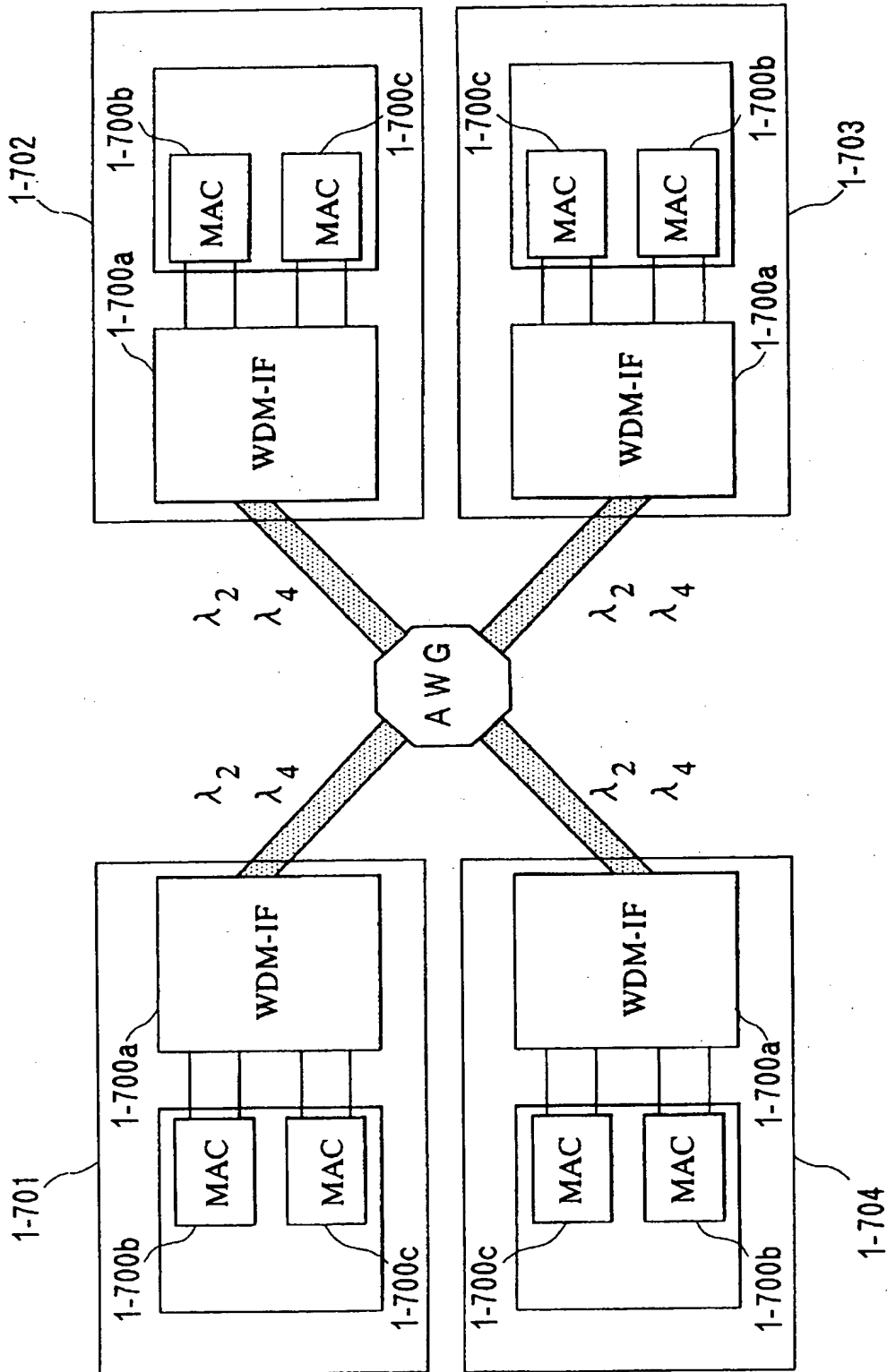


FIG. 1-20

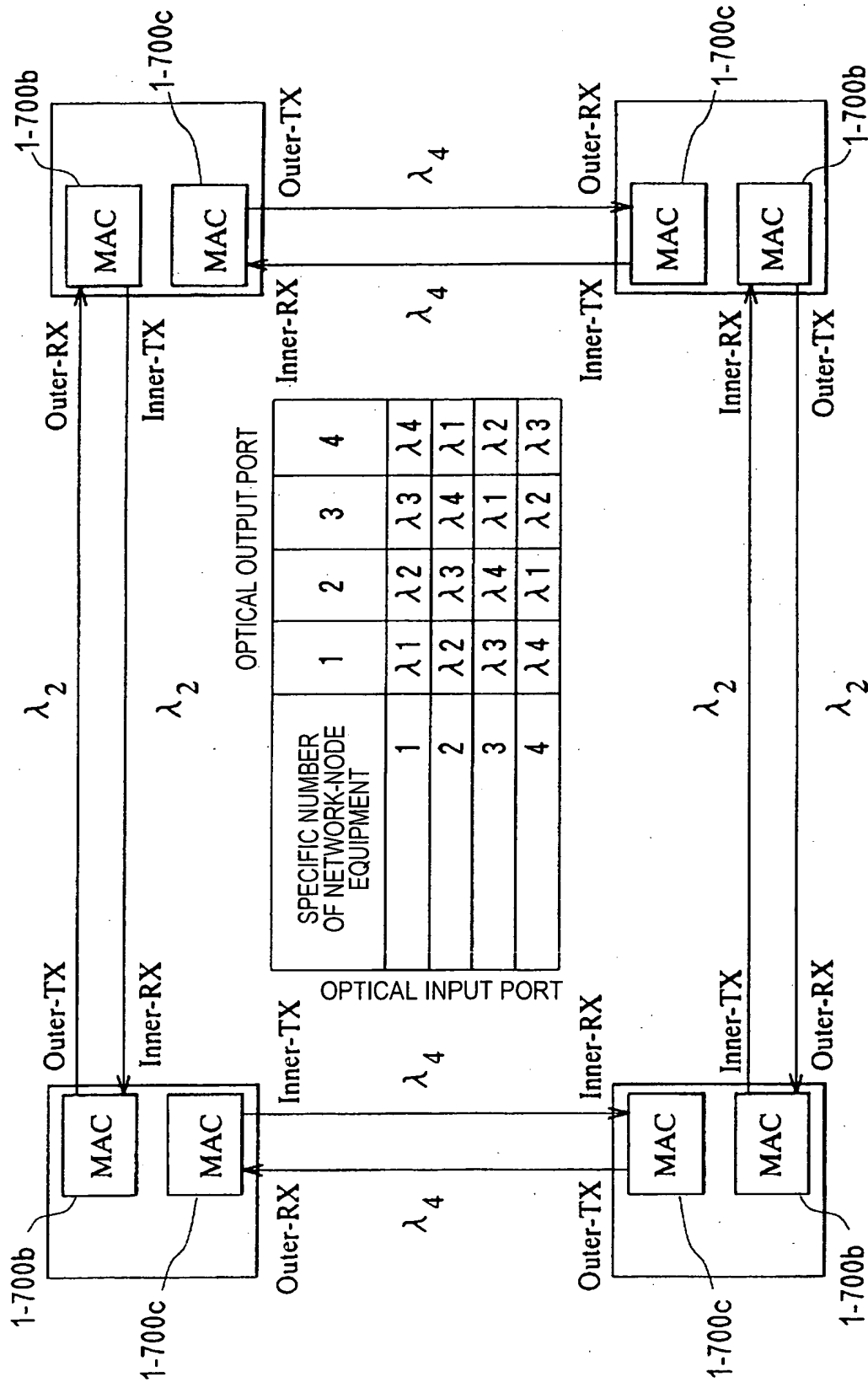


FIG. 1-21

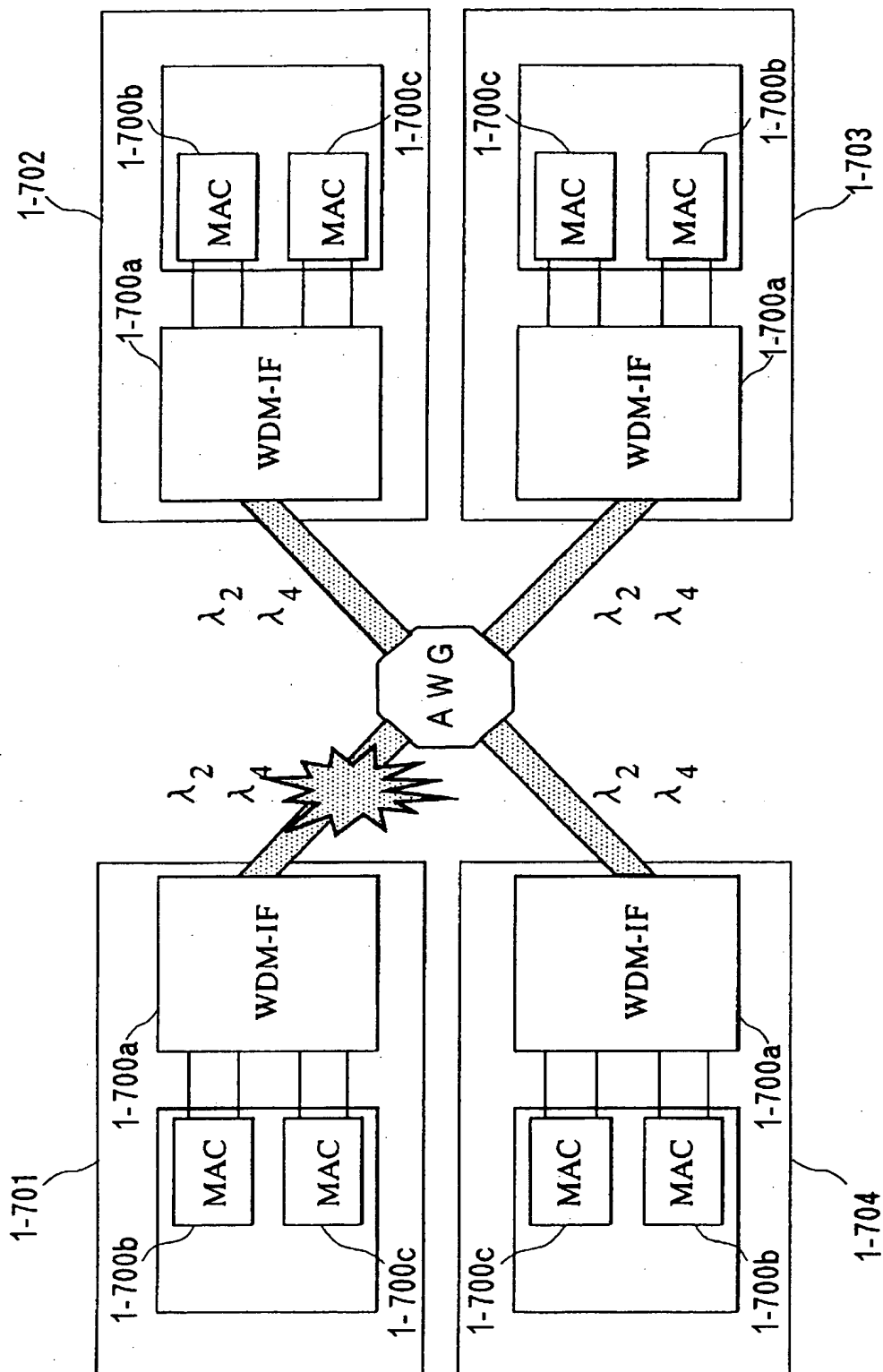


FIG. 1-22

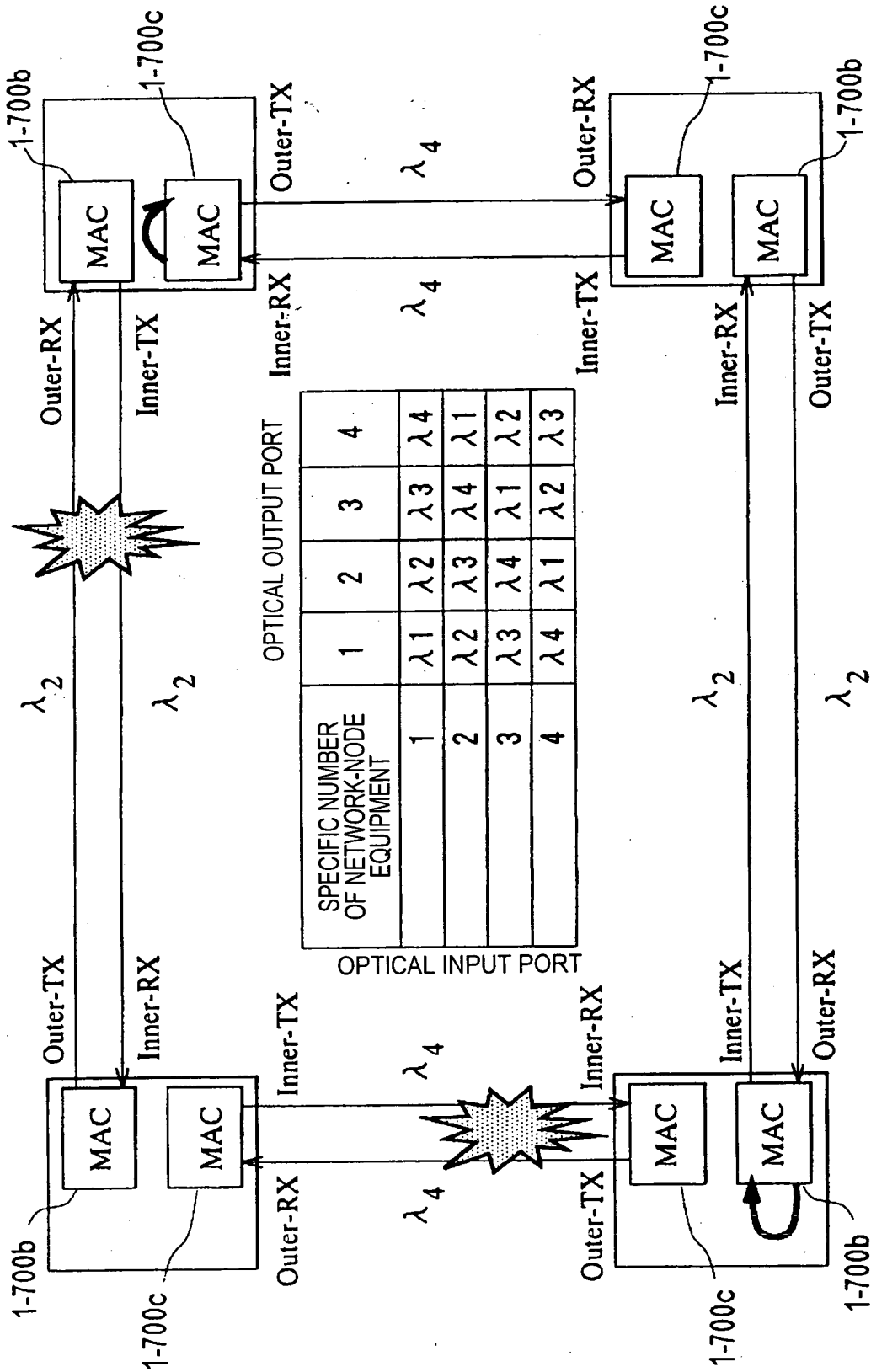


FIG. 1-23

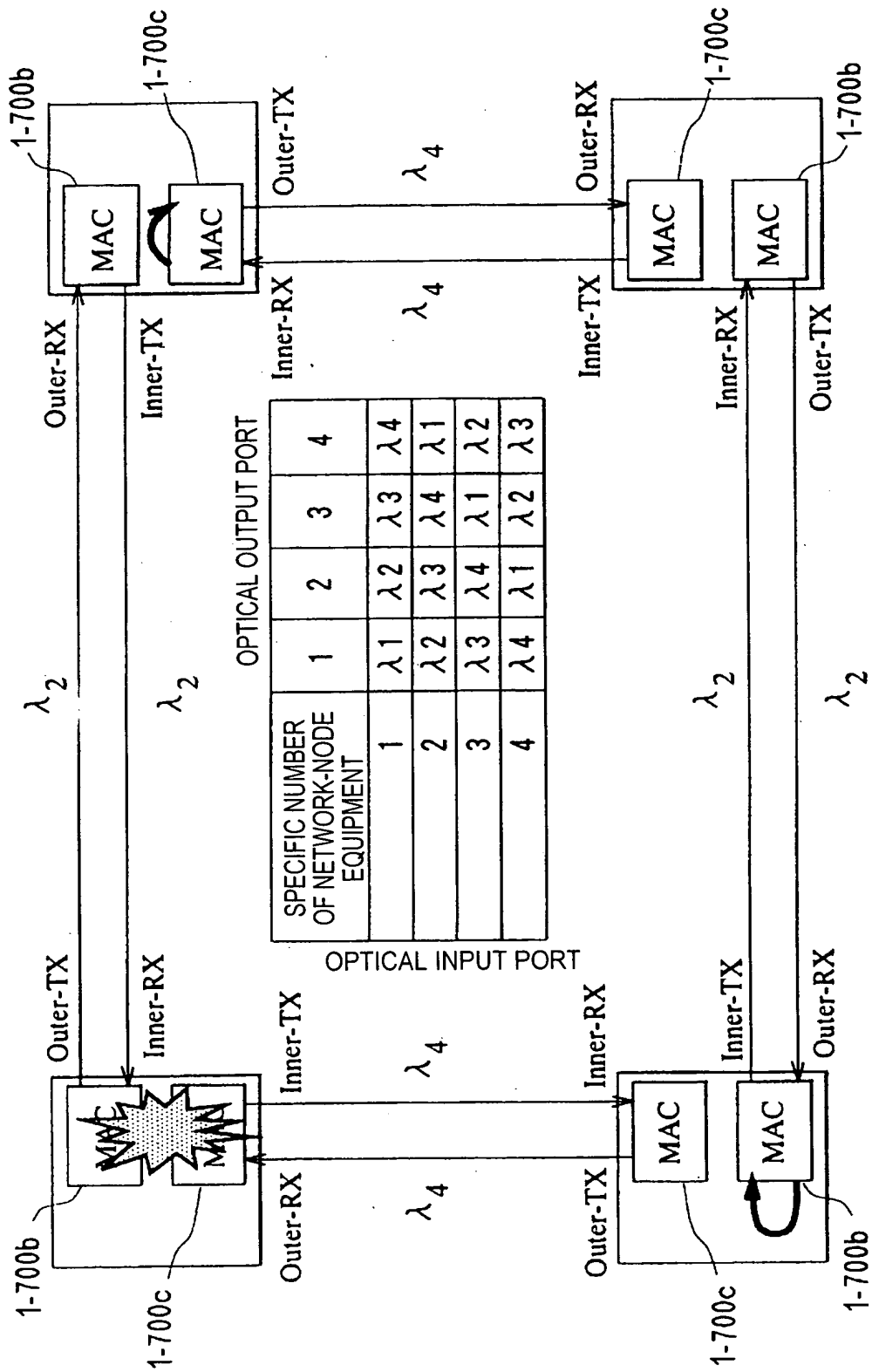
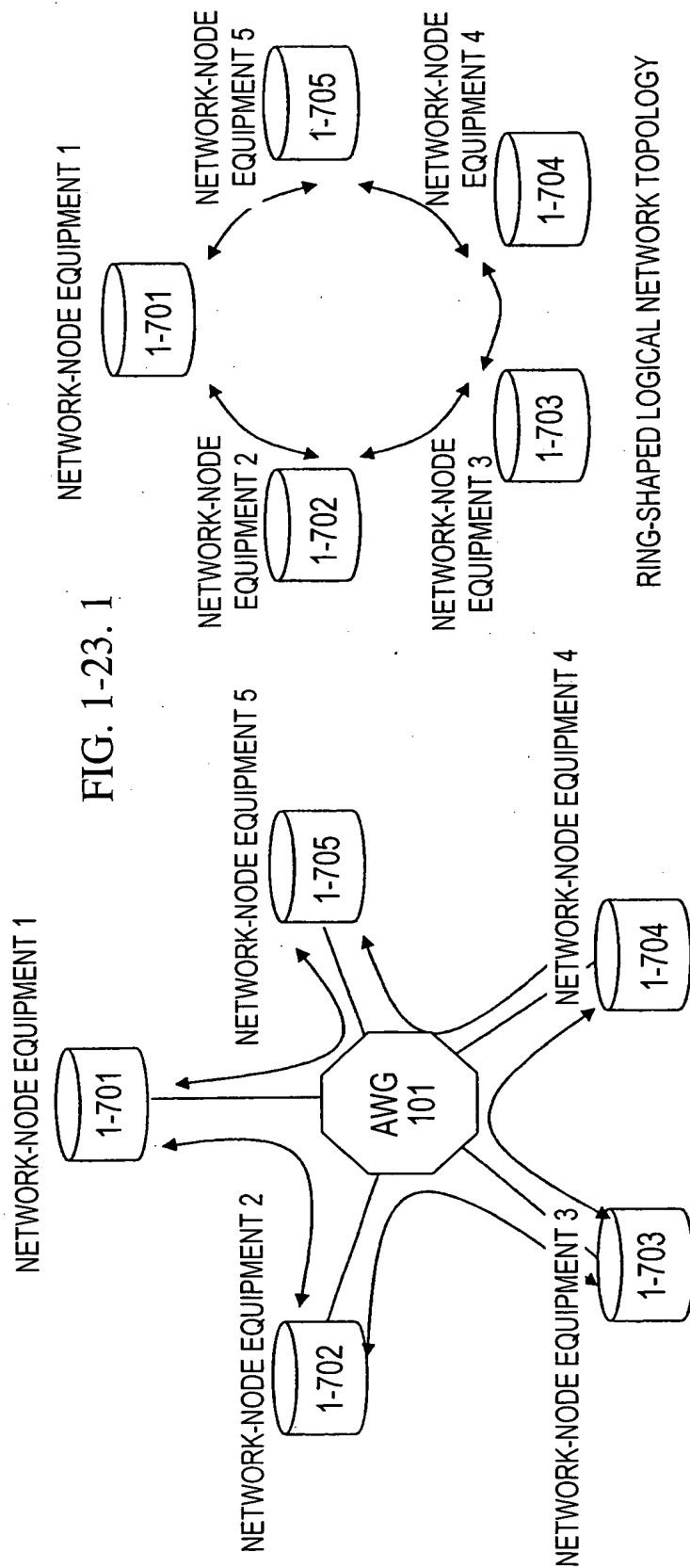


FIG. 1-23. 1



SPECIFIC NUMBER OF NETWORK-NODE EQUIPMENT

OPTICAL OUTPUT PORT

	1	2	3	4	5
1		$\lambda_1$			
2		$\lambda_5$			
3		$\lambda_4$			
4		$\lambda_3$			
5		$\lambda_2$			

OPTICAL INPUT PORT

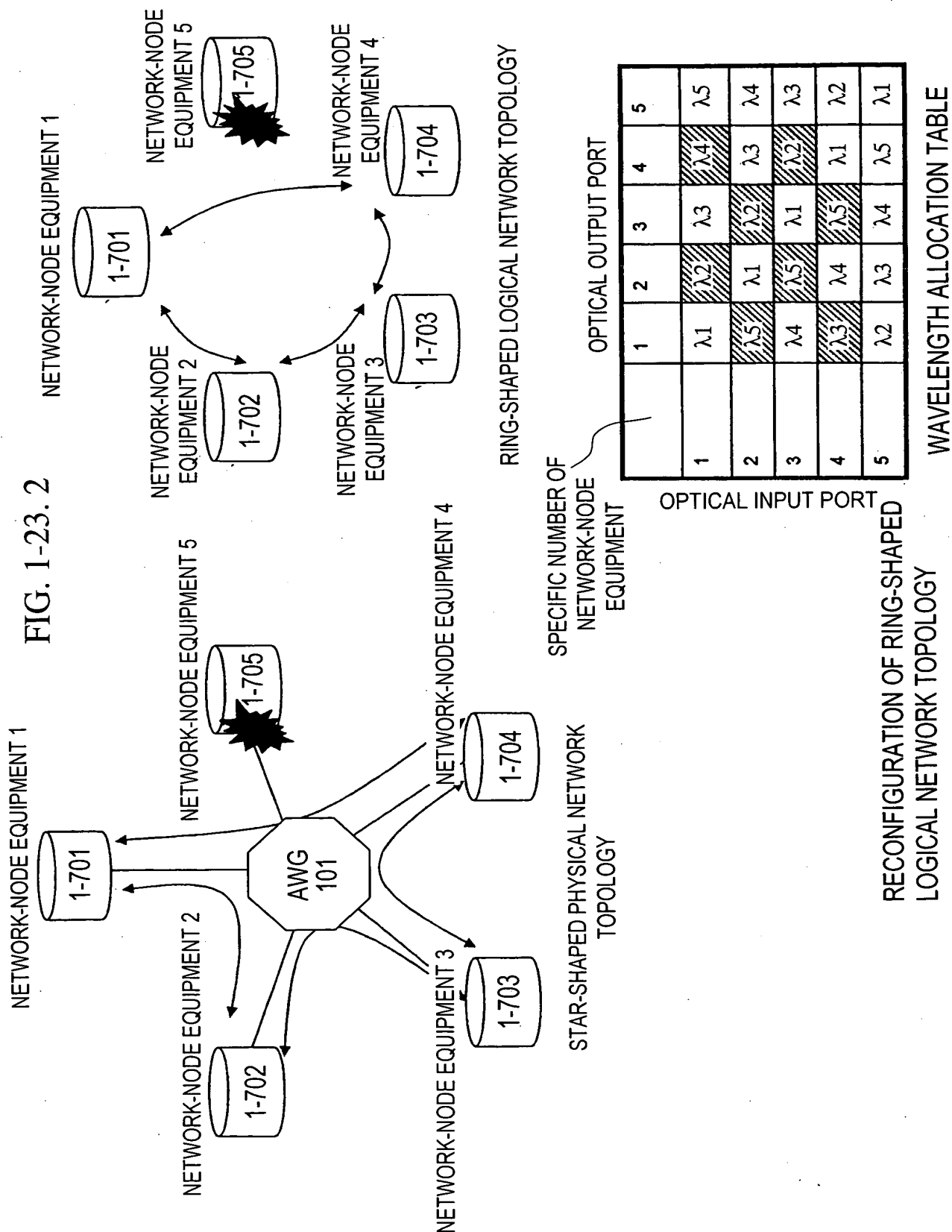
WAVELENGTH ALLOCATION TABLE

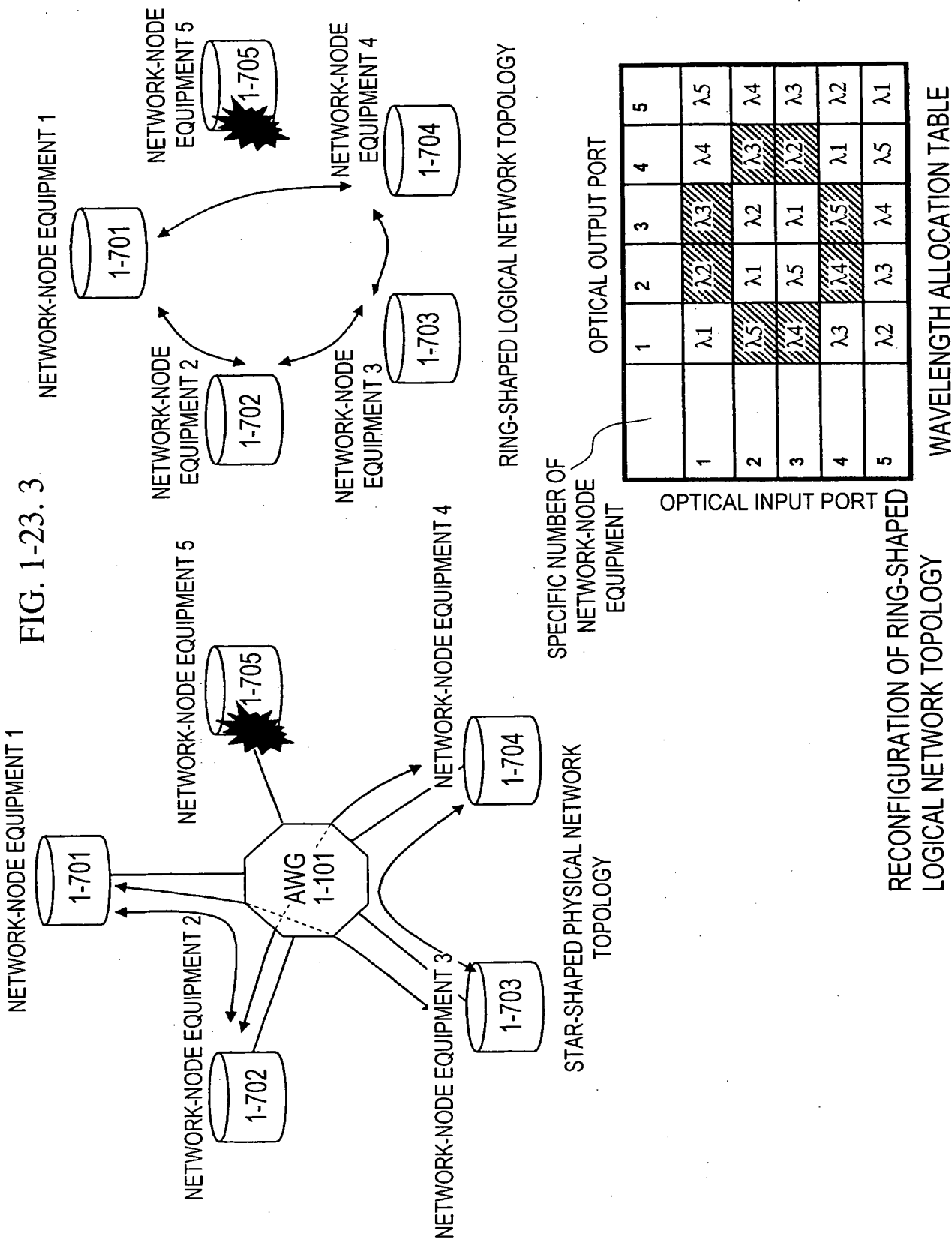
Y WHERE N=5

# RING-SHAPED LOGICAL NETWORK TOPOLOGY WHERE N=5

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FIG. 1-24

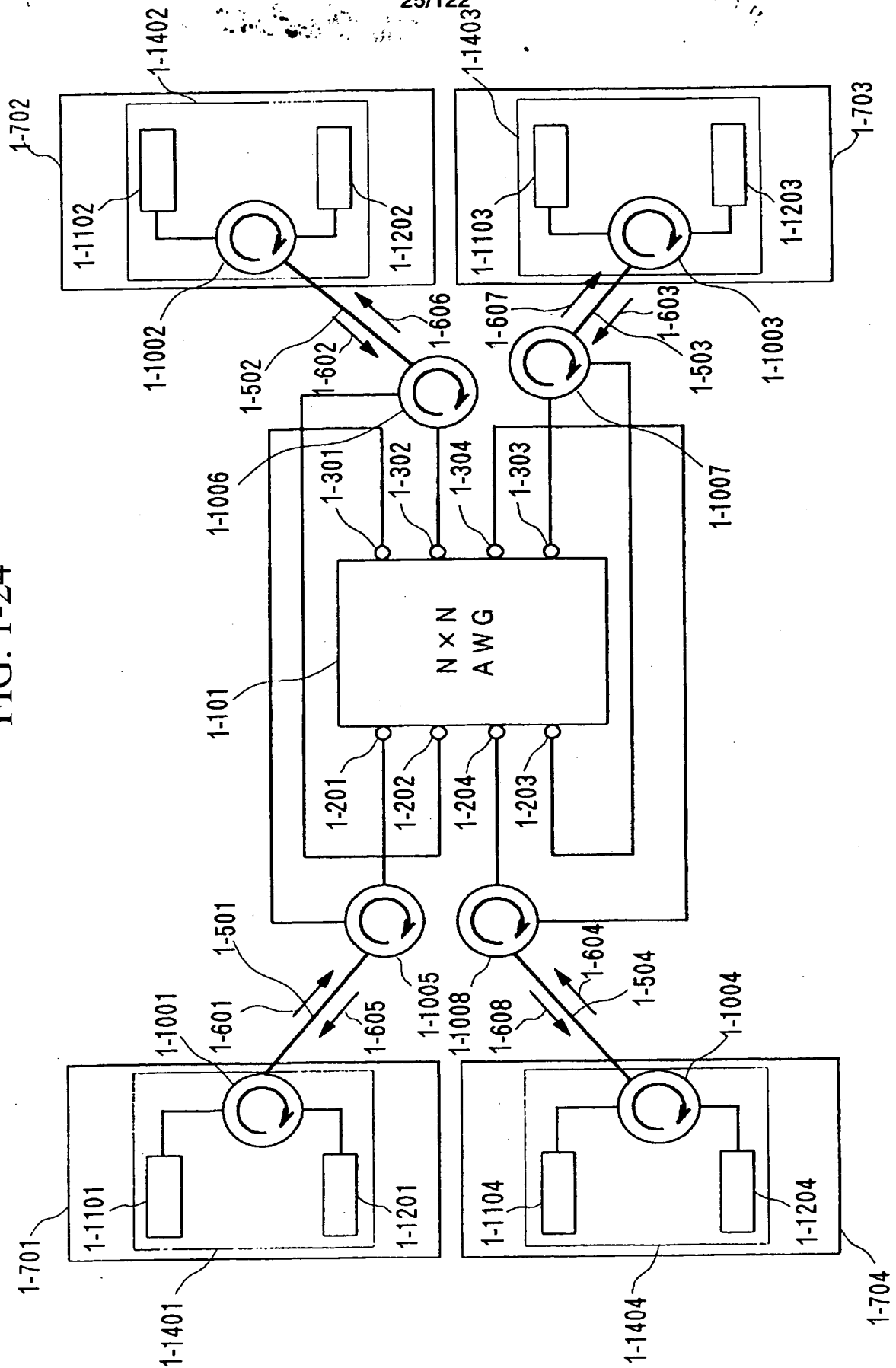


FIG. 1-25

NETWORK-NODE EQUIPMENT (RECEIVING)					
NETWORK-NODE EQUIPMENT (TRANSMITTING)		1-701	1-702	1-703	1-704
	1-701	$\lambda_1$	$\lambda_2$	$\lambda_3$	$\lambda_4$
	1-702	$\lambda_4$	$\lambda_1$	$\lambda_2$	$\lambda_3$
	1-703	$\lambda_3$	$\lambda_4$	$\lambda_1$	$\lambda_2$
	1-704	$\lambda_2$	$\lambda_3$	$\lambda_4$	$\lambda_1$

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FIG. 1-26

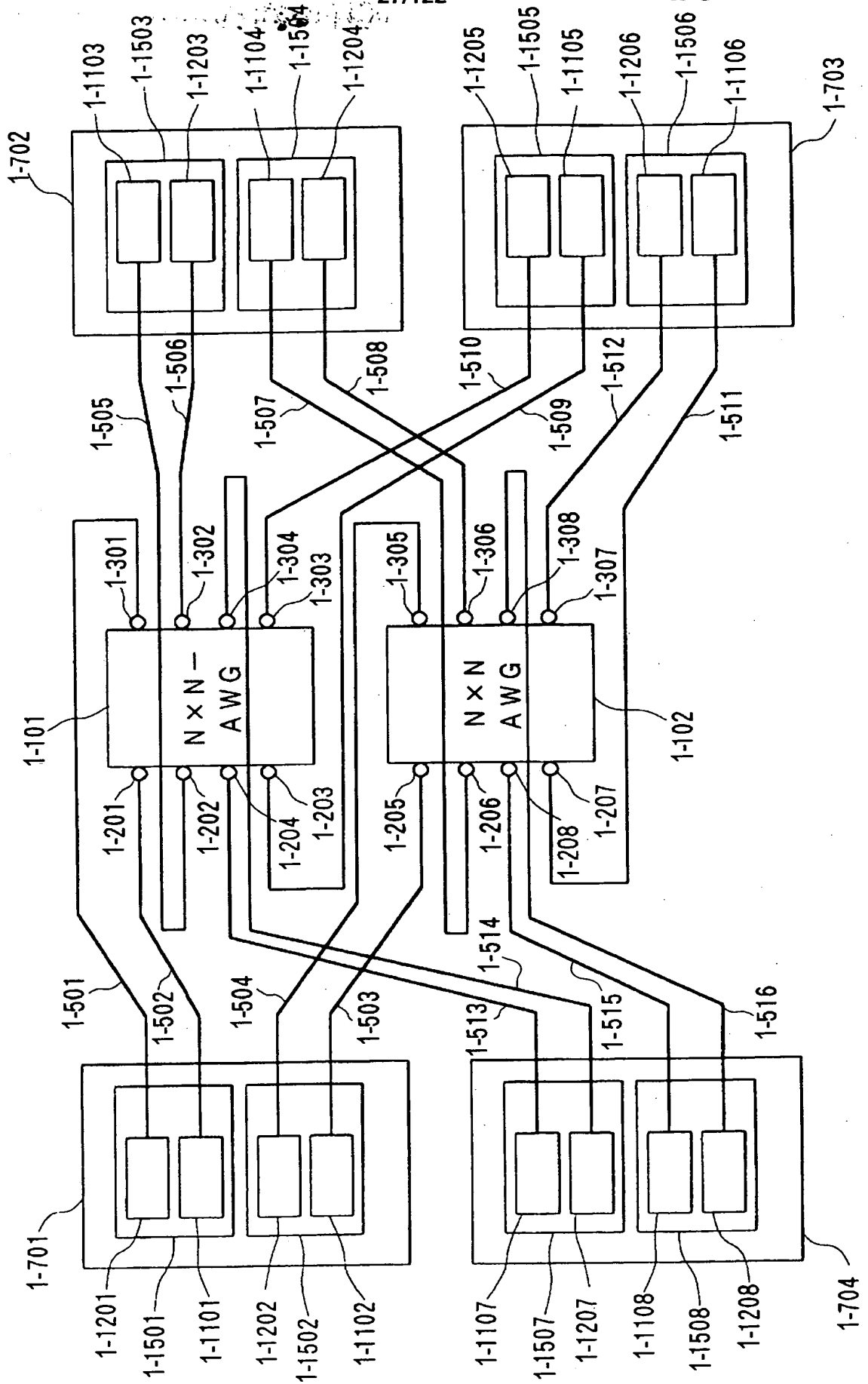
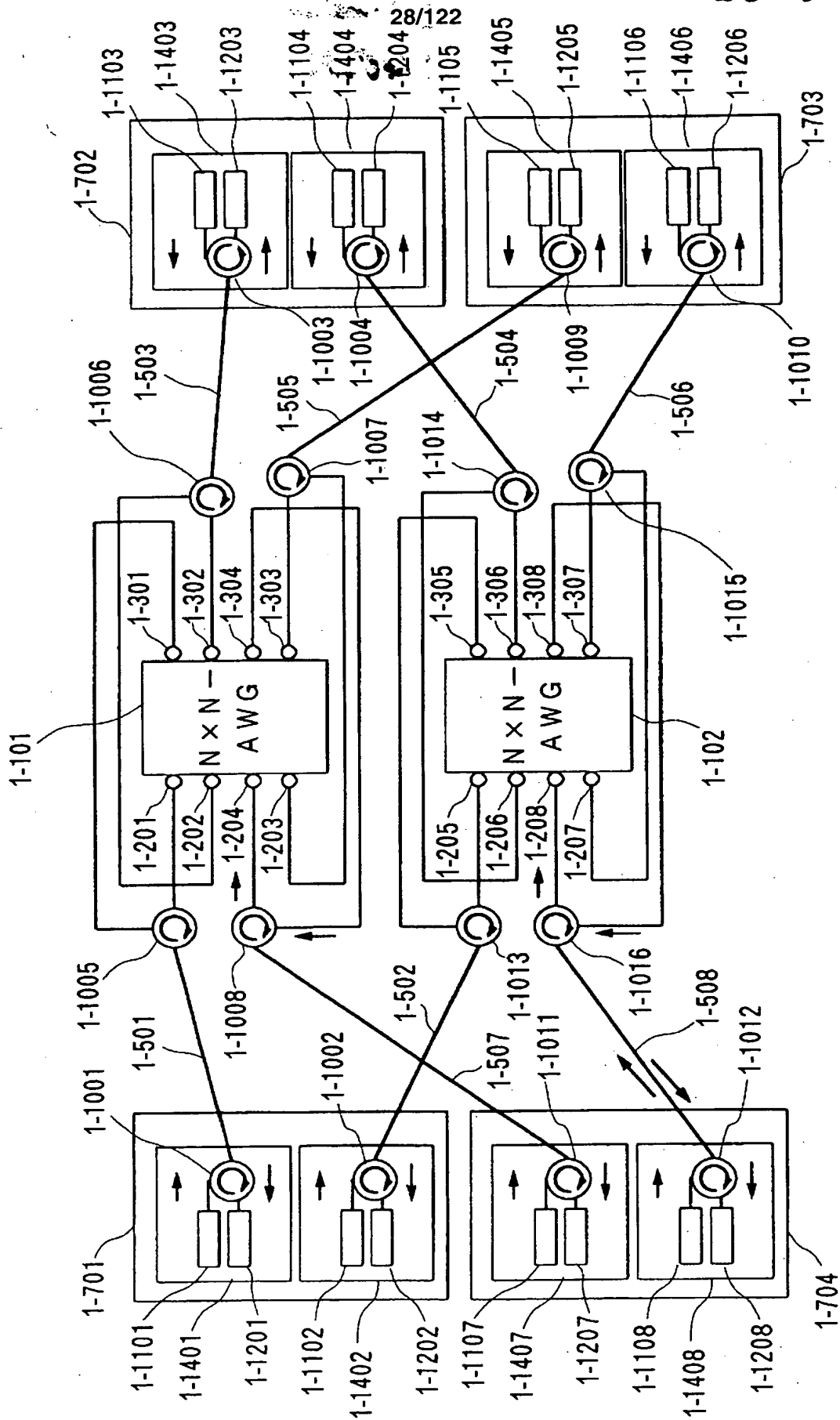


FIG. 1-27



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FIG. 1-28

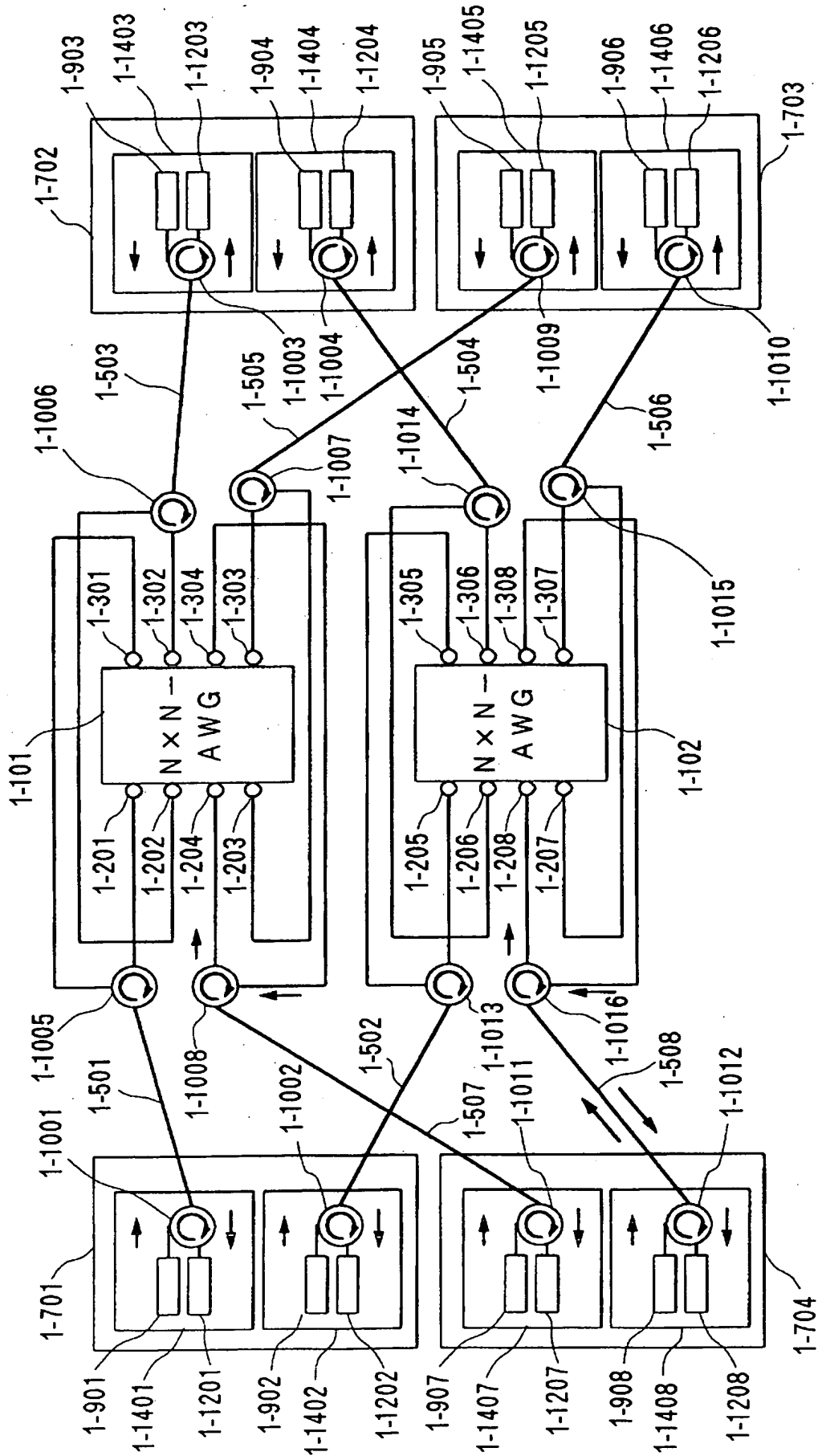


FIG. 1-29

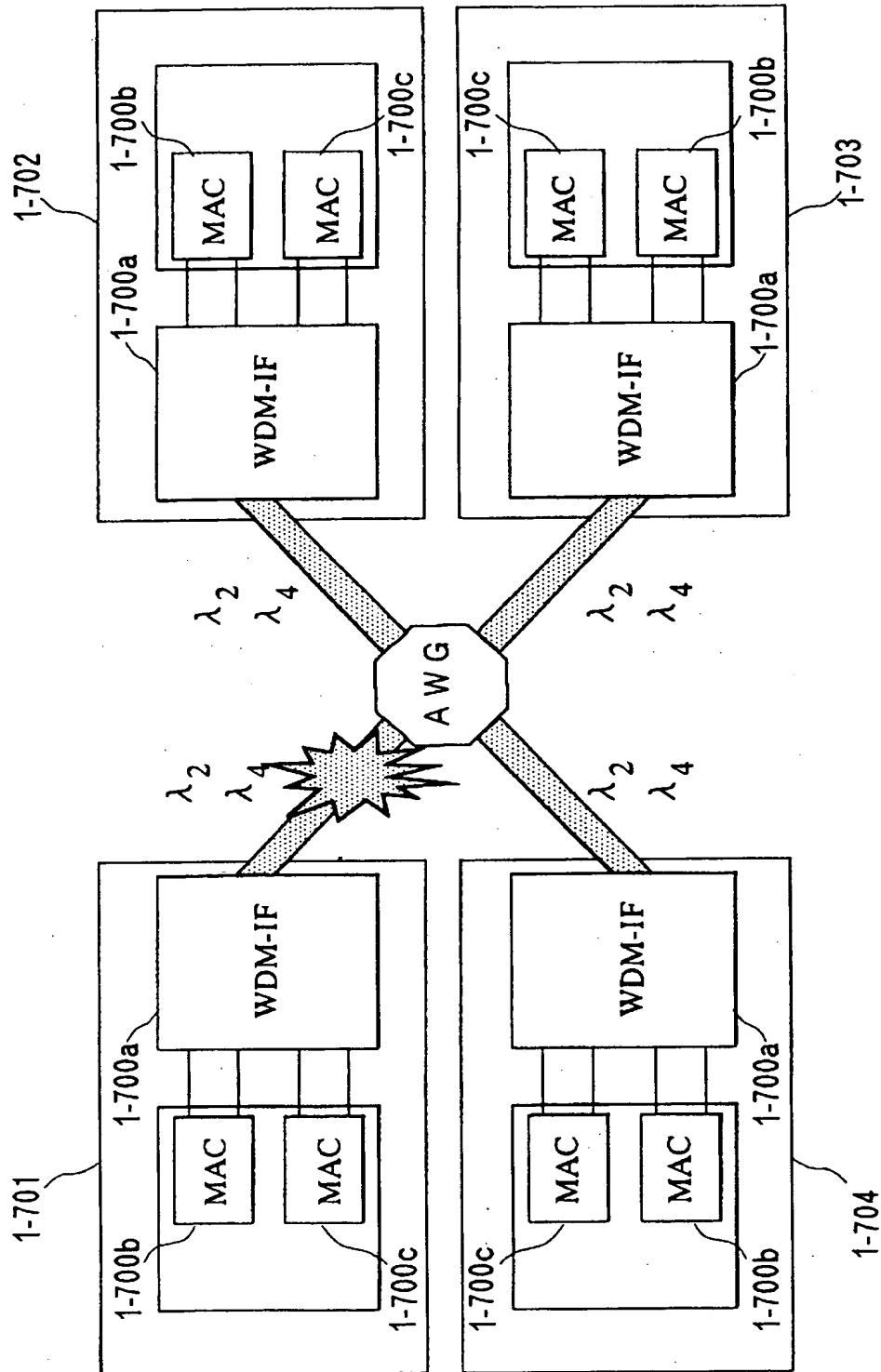
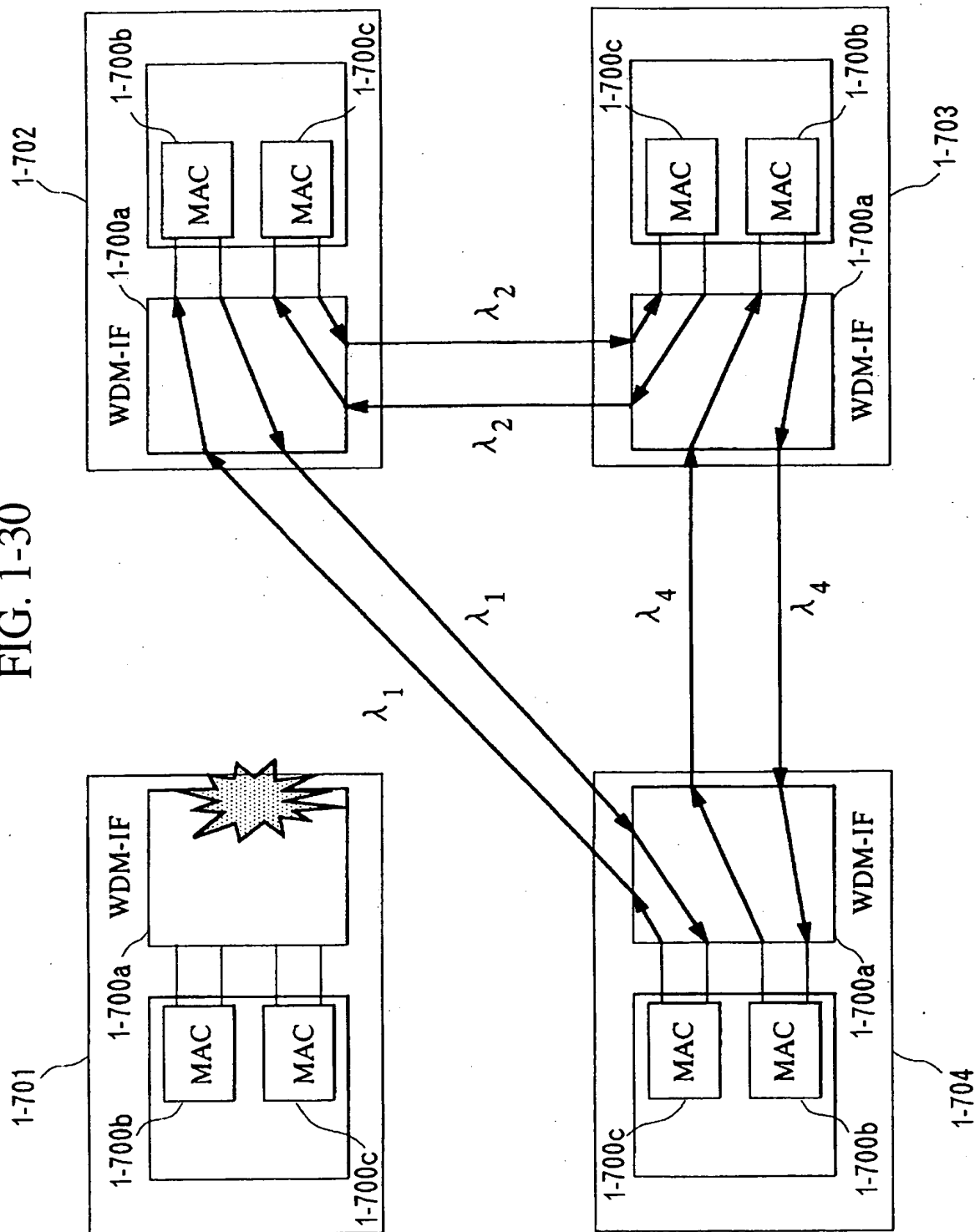


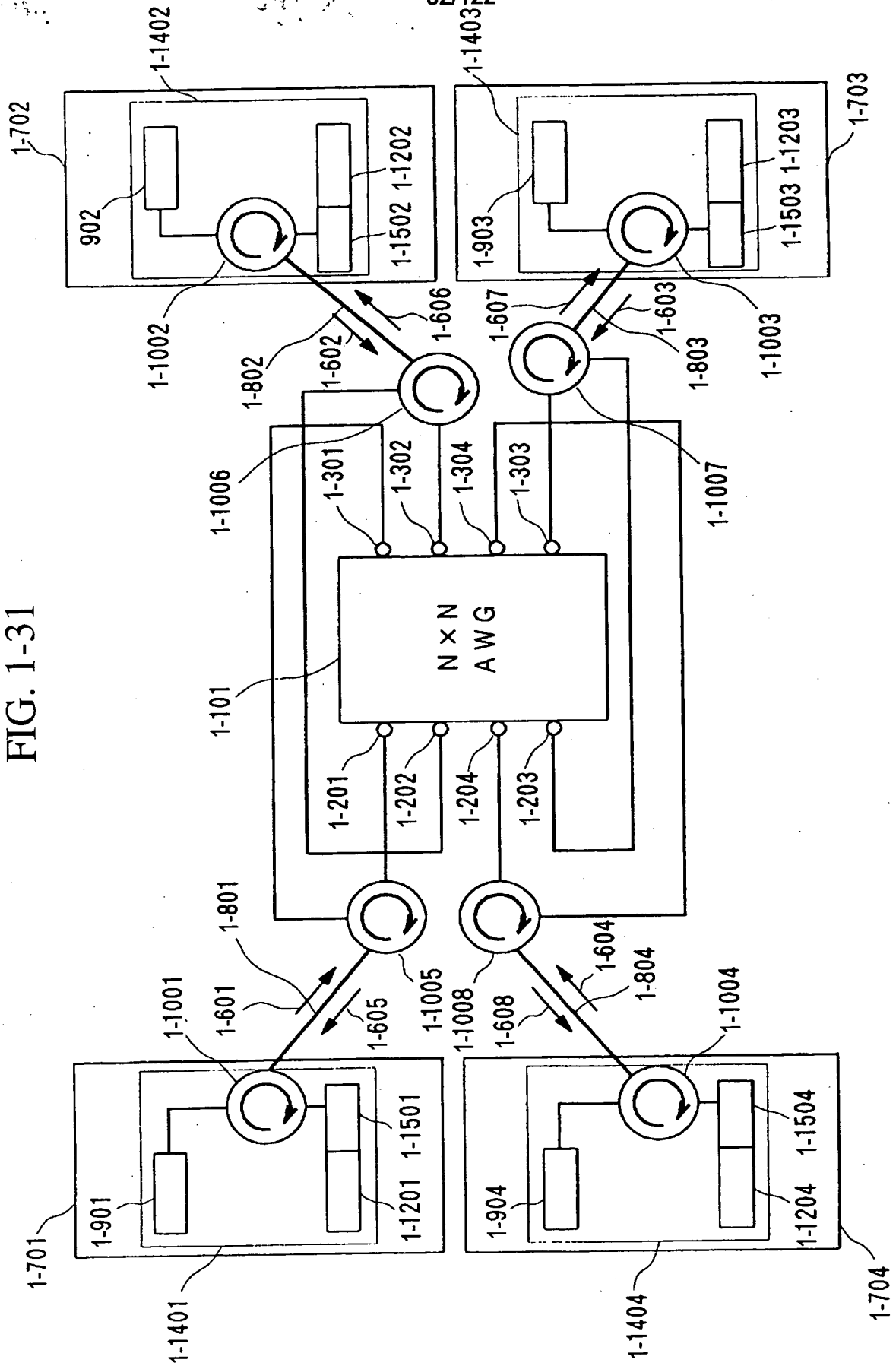
FIG. 1-30



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FIG. 1-31

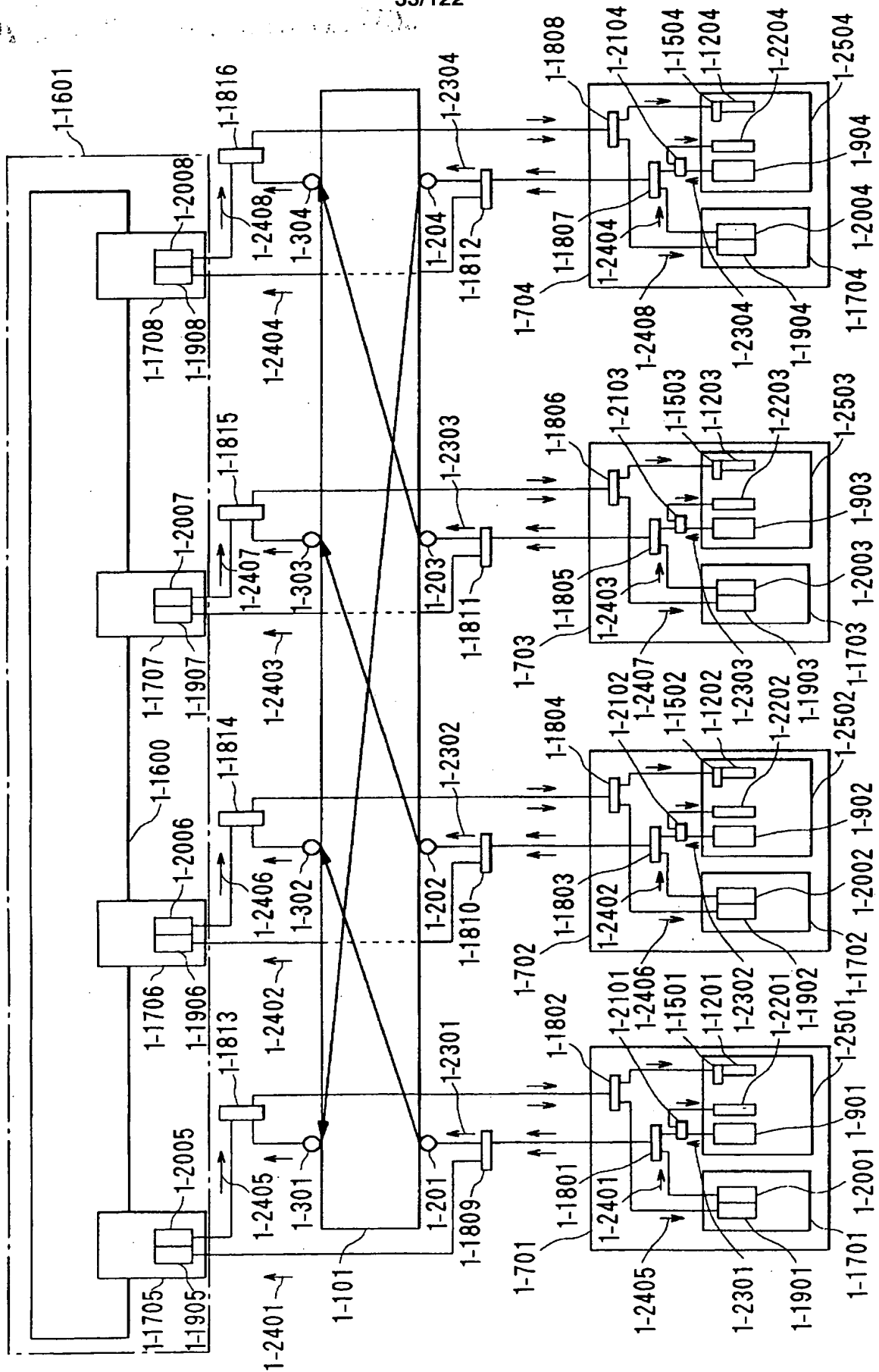




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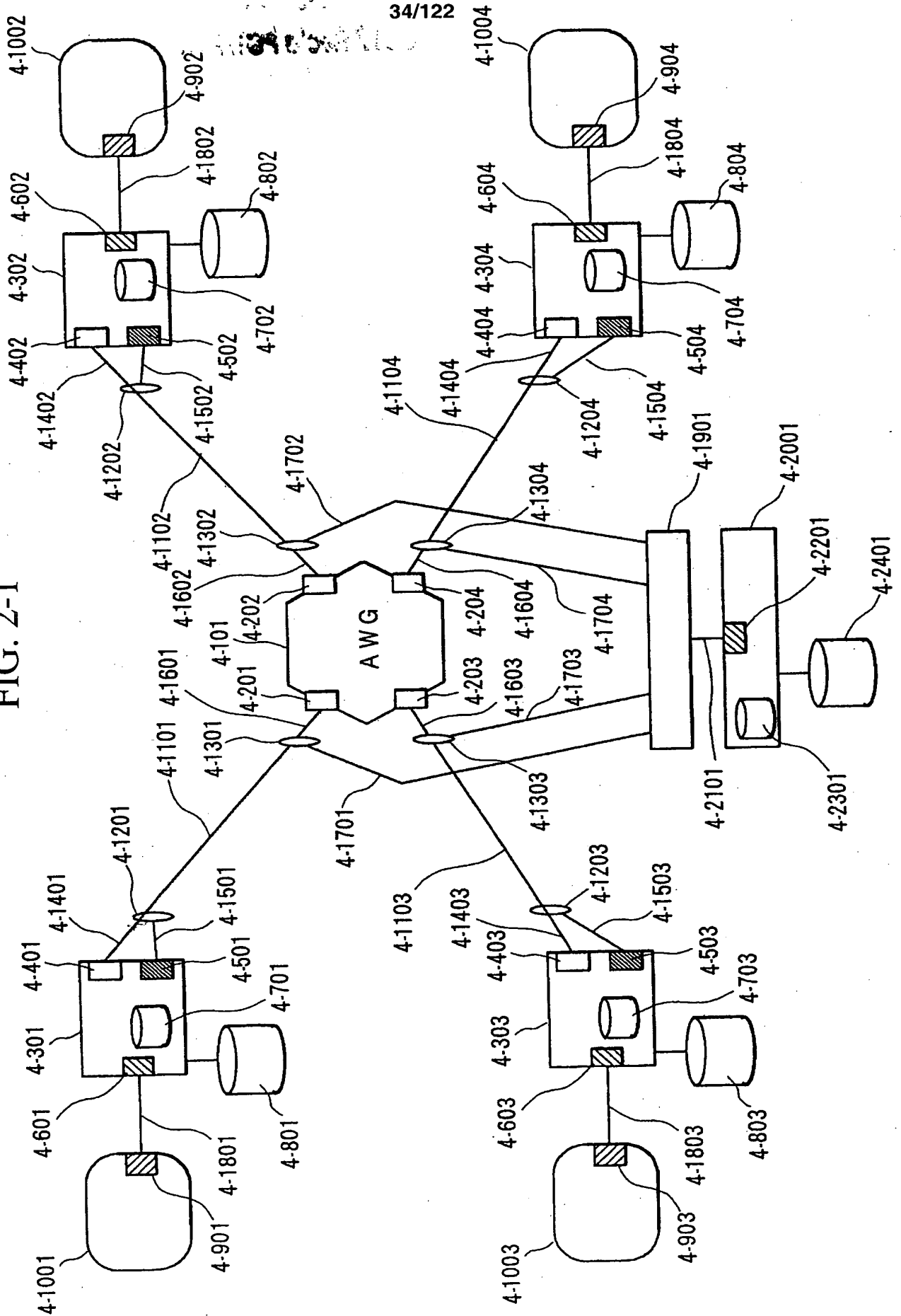
FIG. 1-32



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FIG. 2-1



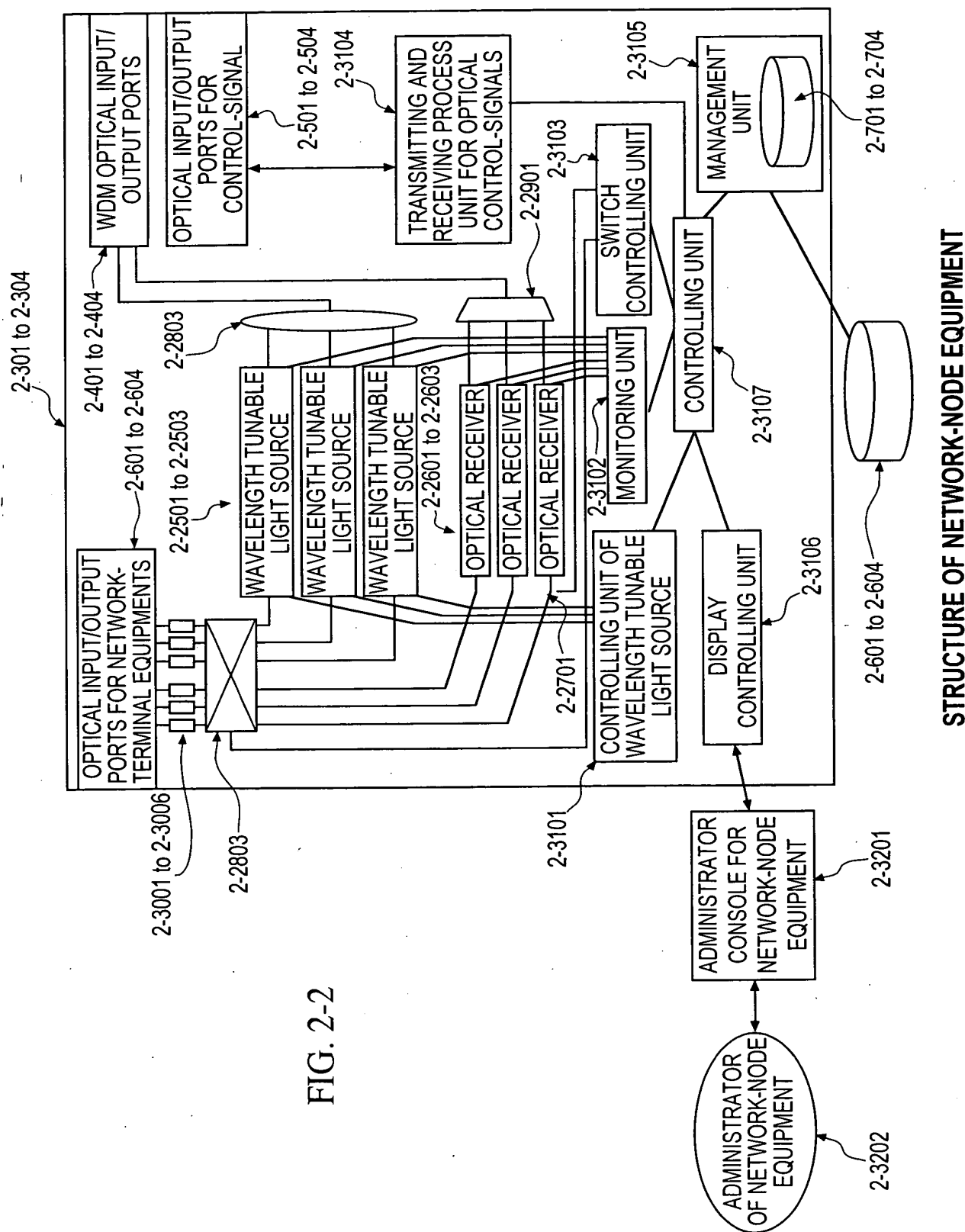
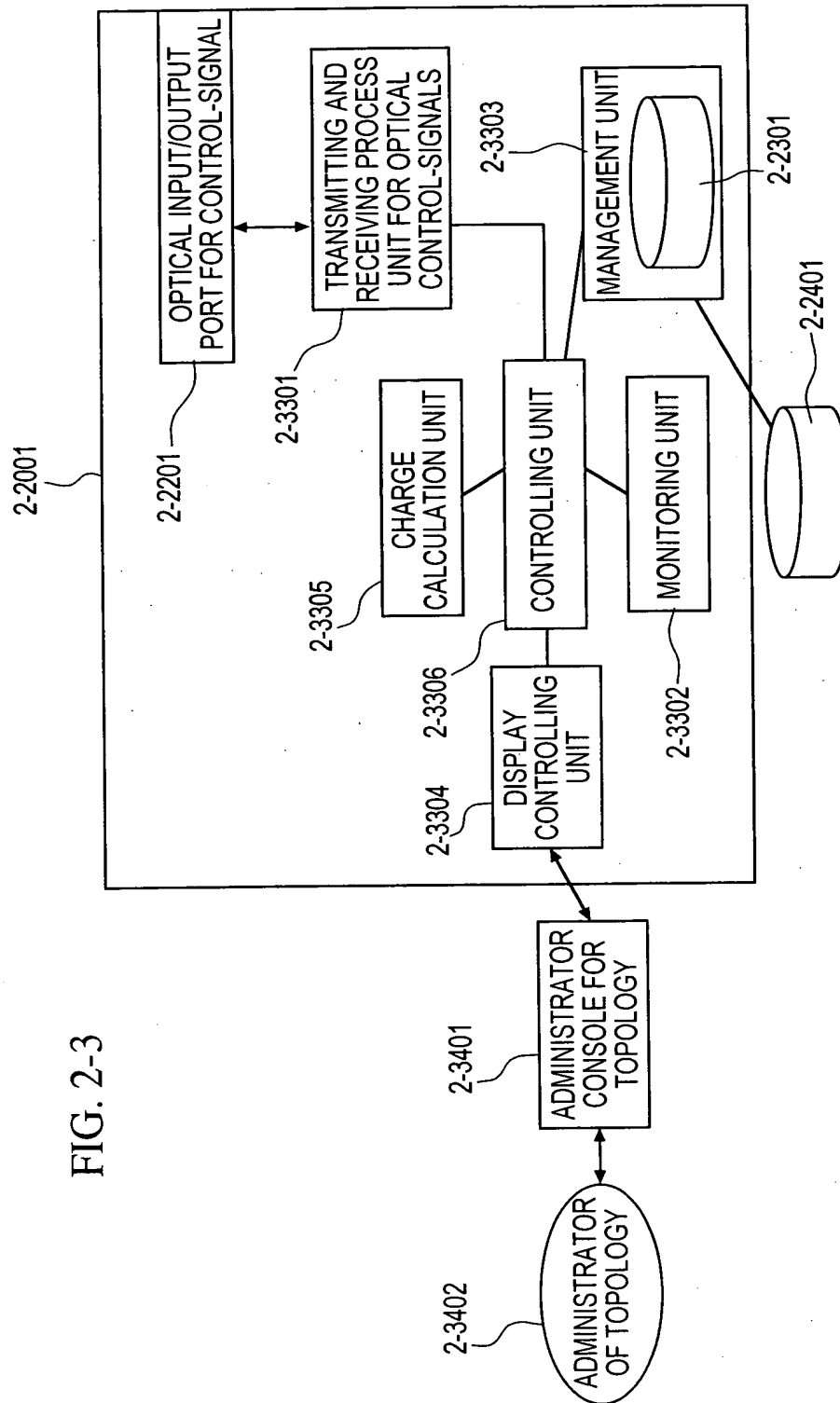


FIG. 2-2

FIG. 2-3



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SPECIFIC MANAGEMENT NUMBER OF NETWORK-NODE EQUIPMENT	GRID INTERVAL	USABLE WAVELENGTH								
		$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$
10	50GHz									

FIG. 2-5

2-3502

SPECIFIC MANAGEMENT NUMBER OF NETWORK-NODE EQUIPMENT	GRID INTERVAL	USABLE WAVELENGTH								
		$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$
1	50GHz	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$
2	50GHz	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$
3	50GHz	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$
4	50GHz	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$
5	50GHz	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$
6	50GHz	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$
7	50GHz	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$
8	50GHz	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$
9	50GHz	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$
10	50GHz	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$	$\lambda 8$	$\lambda 9$

2-3601

2-3601

MESH	MESH	RING	RING	RING	RING, STAR	STAR	STAR
3	4	5	6	7		8	9
3	4	1	2	3		4	5
1	1	2	2	2		2	2
$\lambda 2$	$\lambda 2$	$\lambda 2$	$\lambda 2$	$\lambda 2$	$\lambda 2$	$\lambda 2$	$\lambda 2$
4	2	7	5	7	8	9	10
Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok
Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok
Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok
3	3	2	2	2	5	1	1

FIG. 2-7

2-3603                      2-3602                      2-3604

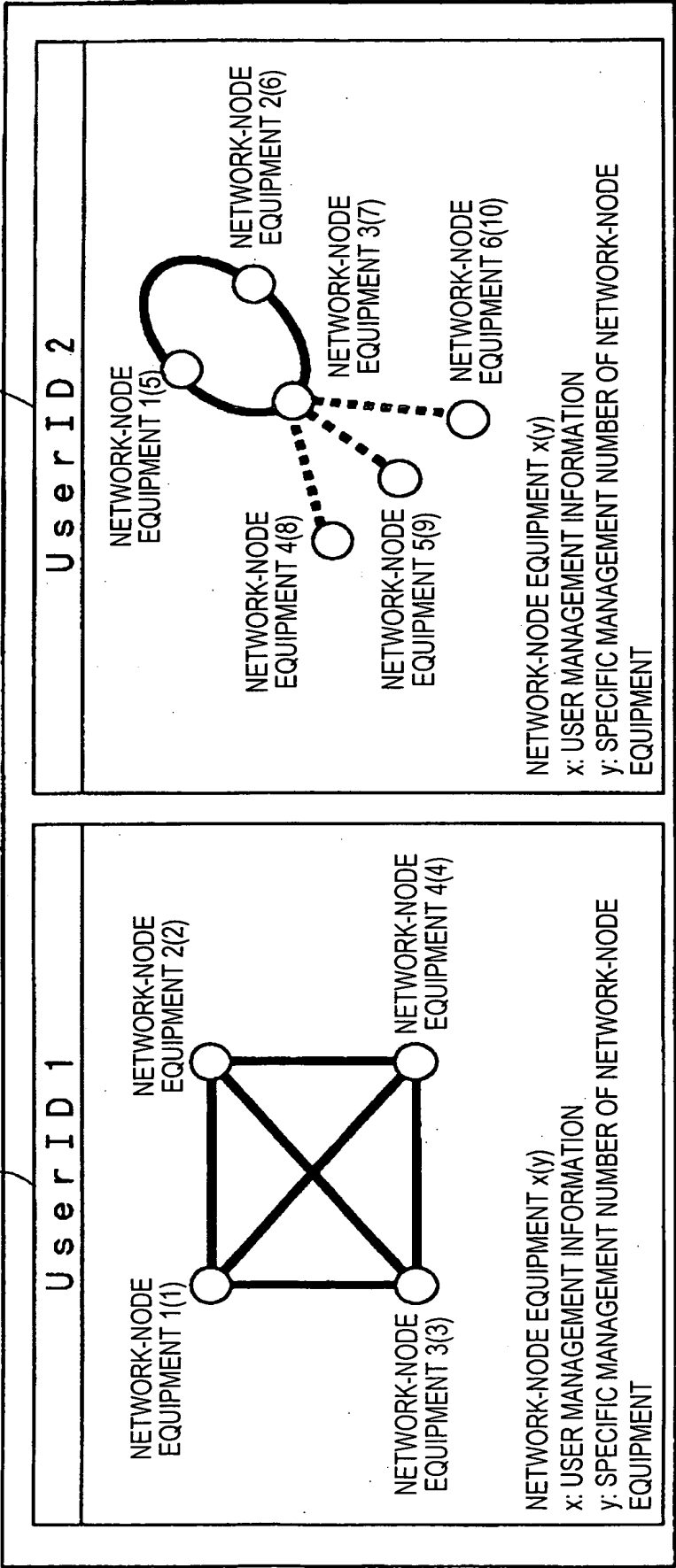




FIG. 2-8

2-3605

USER ID	YEAR AND MONTH	INCREASED/DECREASED NUMBER OF NETWORK-NODE EQUIPMENTS	NUMBER OF INCREASING BANDWIDTH	TOTAL NUMBER OF WAVELENGTH PATH LINKS	DISCOUNT	CHARGE
1	2003.01	0	0	12	0	A
1	2003.02	0	0	12	0	A
1	2003.03	0	0	12	0	A
1	2003.04	0	0	12	0	A
1	2003.05	0	0	12	0	A
2	2003.01	0	0	12	0	A
2	2003.02	0	0	12	0	A
2	2003.03	0	0	12	0	A
2	2003.04	0	0	12	0	A
2	2003.05	0	0	12	0	A

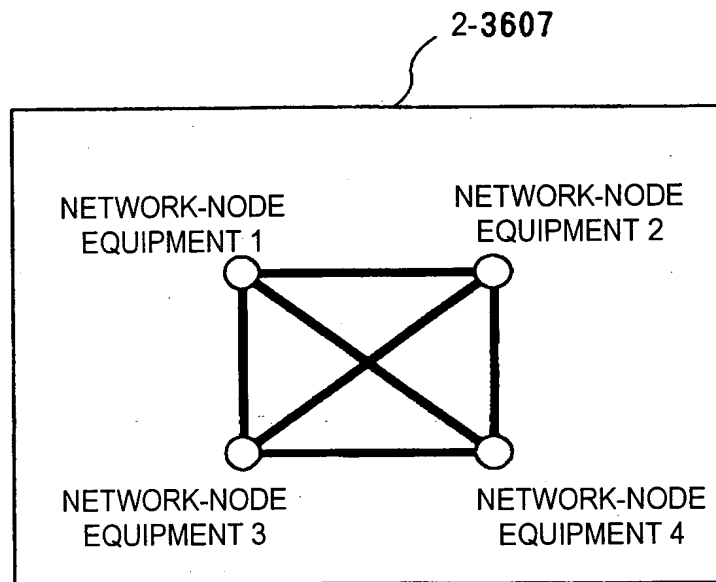
**2-3606**

TYPE OF LOGICAL NETWORK TOPOLOGY	MESH	MESH	MESH	MESH
SPECIFIC USER NUMBER OF NETWORK-NODE EQUIPMENT	1			
	2			
WAVELENGTH IN USE	3			
	4			
SPECIFIC MANAGEMENT NUMBER OF OTHER END OF NETWORK-NODE EQUIPMENT				
TRANSMITTING STATUS OF WDM SIGNAL				
RECEIVING STATUS OF WDM SIGNAL				
CONNECTING STATUS OF NETWORK-NODE EQUIPMENT				
NUMBER OF OPTICAL LINKS OF NETWORK-NODE EQUIPMENT	3			
ADDING BANDWIDTH OF LINK				
LENGTH OF TIME FOR INCREASING BANDWIDTH				

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FIG. 2-10



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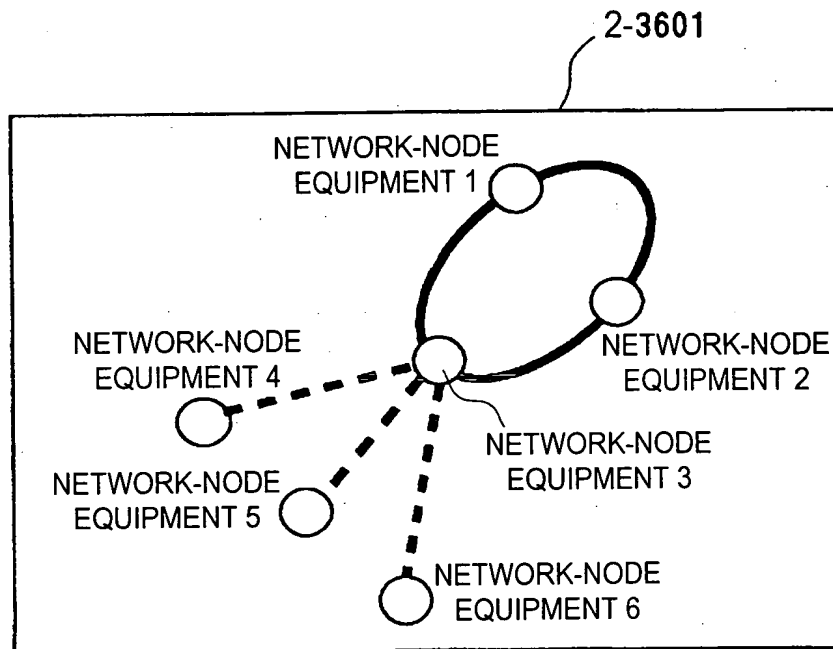
FIG. 2-11

2-3608

USER ID	YEAR AND MONTH	INCREASED/DECREASED NUMBER OF NETWORK-NODE EQUIPMENTS	NUMBER OF INCREASING BANDWIDTH	TOTAL NUMBER OF WAVELENGTH PATH LINKS	DISCOUNT	CHARGE
1	2003.01	0	0	12	0	A
1	2003.02	0	0	12	0	A
1	2003.03	0	0	12	0	A
1	2003.04	0	0	12	0	A
1	2003.05	0	0	12	0	A

[illegible]

FIG. 2-13



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FIG. 2-14

2-3611  
↙

USER ID	YEAR AND MONTH	INCREASED/DECREASED NUMBER OF NETWORK-NODE EQUIPMENTS	NUMBER OF INCREASING BANDWIDTH	TOTAL NUMBER OF WAVELENGTH PATH LINKS	DISCOUNT	CHARGE
2	2003.01	0	0	12	0	A
2	2003.02	0	0	12	0	A
2	2003.03	0	0	12	0	A
2	2003.04	0	0	12	0	A
2	2003.05	0	0	12	0	A

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FIG. 2-15

2-3701

TYPE OF LOGICAL NETWORK TOPOLOGY										MESH				MESH, SATR				
SPECIFIC MANAGEMENT NUMBER OF NETWORK-NODE EQUIPMENT										1				2				
SPECIFIC USER NUMBER OF NETWORK-NODE EQUIPMENT										1				2				
USER ID										1				1				
WAVELENGTH IN USE										$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 3$	$\lambda 4$	$\lambda 3$	$\lambda 4$	$\lambda 1$	$\lambda h$
SPECIFIC MANAGEMENT NUMBER OF OTHER END OF NETWORK-NODE EQUIPMENT										2	3	4	1	3	4	11		
TRANSMITTING STATUS OF WDM SIGNAL										0k	0k	0k	0k	0k	0k	0k	0k	0k
RECEIVING STATUS OF WDM SIGNAL										0k	0k	0k	0k	0k	0k	0k	0k	0k
CONNECTING STATUS OF NETWORK-NODE EQUIPMENT										0k	0k	0k	0k	0k	0k	0k	0k	0k
NUMBER OF OPTICAL LINKS OF NETWORK-NODE EQUIPMENT										3				4				
ADDING BANDWIDTH OF LINK																		
LENGTH OF TIME FOR INCREASING BANDWIDTH																		

MESH	MESH, SATR				SATR	RING	RING	RING	RING, SATR	SATR	SATR	SATR
3	4				11	6	7	7	7	8	9	10
3	4				5	2	3	3	3	4	5	6
1	1				1	2	2	2	2	2	2	2
$\lambda 4$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda i$	$\lambda h$	$\lambda i$	$\lambda b$	$\lambda c$	$\lambda a$	$\lambda d$	$\lambda e$	$\lambda f$
4	1	2	3	1	2	11	2	4	7	6	5	8
Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok
Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok
Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok
3	4				2	2	2	2	5	1	1	1



FIG. 2-16

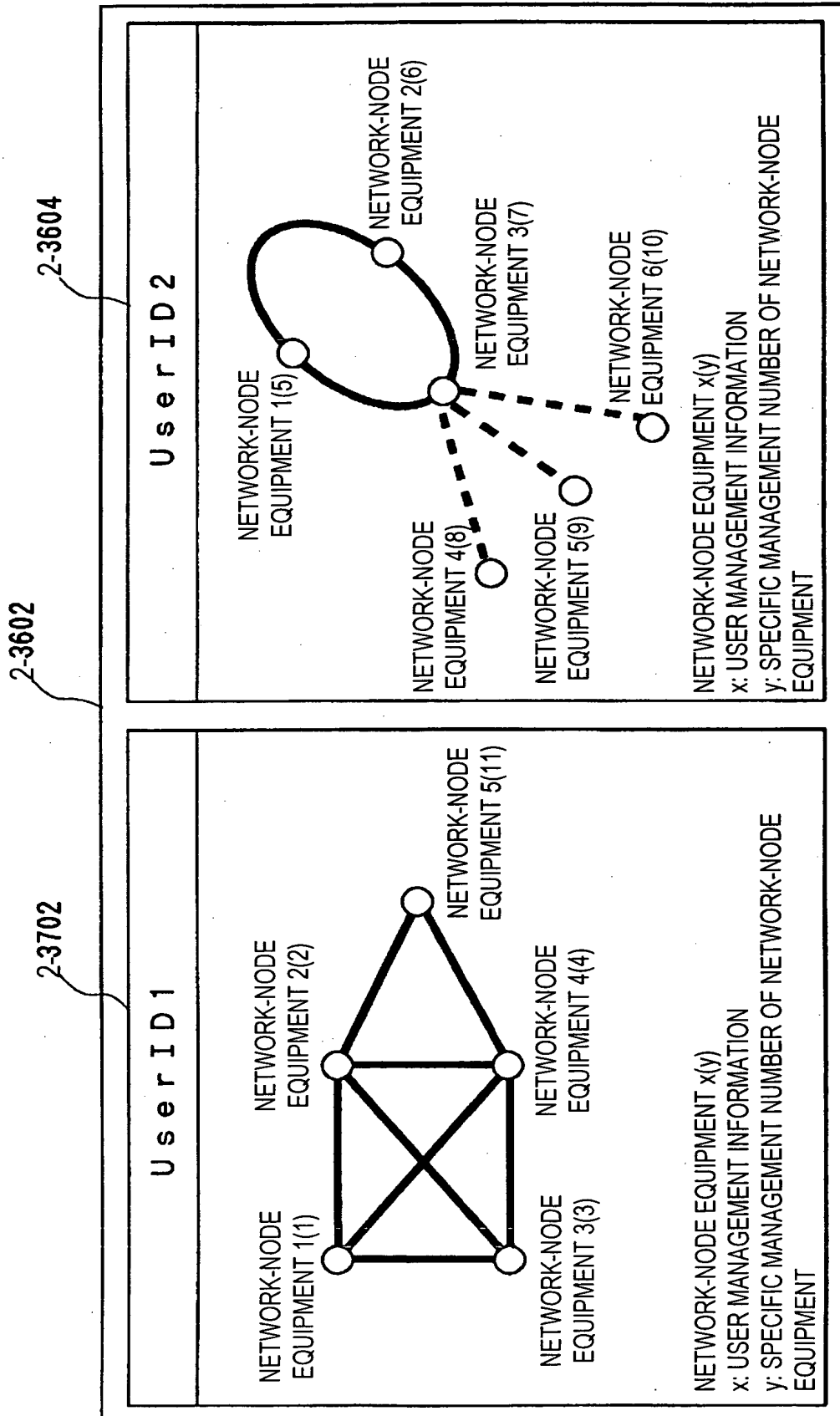


FIG. 2-17

2-3703

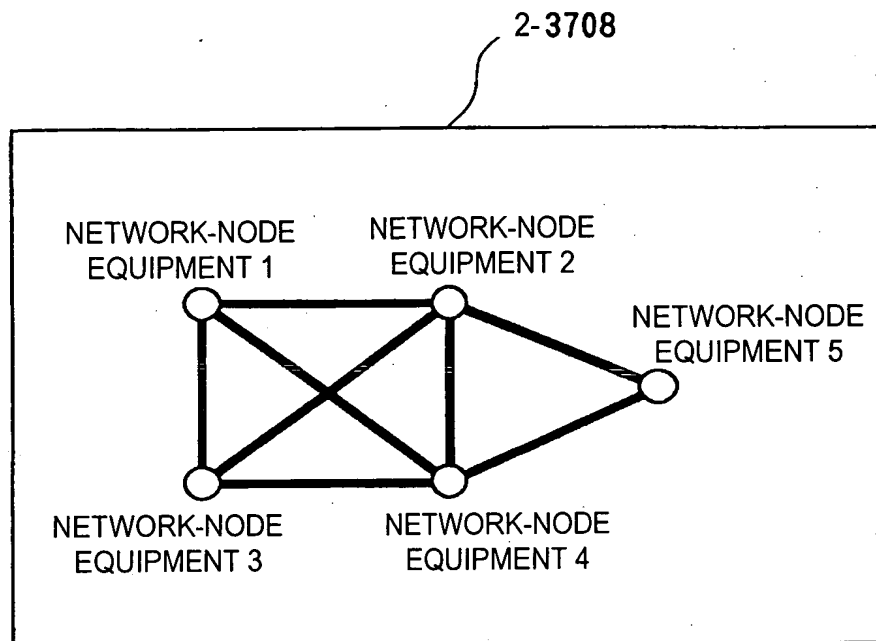
USER ID	YEAR AND MONTH	INCREASED/DECREASED NUMBER OF NETWORK-NODE EQUIPMENTS	NUMBER OF INCREASING BANDWIDTH	TOTAL NUMBER OF WAVELENGTH PATH LINKS	DISCOUNT	CHARGE
1	2003.01	0	0	12	0	A
1	2003.02	0	0	12	0	A
1	2003.03	0	0	12	0	A
1	2003.04	1	0	14	0	B
1	2003.05	1	0	14	0	B
2	2003.01	0	0	12	0	A
2	2003.02	0	0	12	0	A
2	2003.03	0	0	12	0	A
2	2003.04	0	0	12	0	A
2	2003.05	0	0	12	0	A

2-3704

2-3705

TYPE OF LOGICAL NETWORK TOPOLOGY	MESH	MESH, SATR	MESH	MESH, SATR	SATR
SPECIFIC USER NUMBER OF NETWORK-NODE EQUIPMENT	1	2	3	4	5
WAVELENGTH IN USE	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 1$	$\lambda h$
SPECIFIC MANAGEMENT NUMBER OF OTHER END OF NETWORK-NODE EQUIPMENT	2	3	4	1	2
TRANSMITTING STATUS OF WDM SIGNAL	0k	0k	0k	0k	0k
RECEIVING STATUS OF WDM SIGNAL	0k	0k	0k	0k	0k
CONNECTING STATUS OF NETWORK-NODE EQUIPMENT	0k	0k	0k	0k	0k
NUMBER OF OPTICAL LINKS OF NETWORK-NODE EQUIPMENT	3	4	3	4	2
ADDING BANDWIDTH OF LINK					
LENGTH OF TIME FOR INCREASING BANDWIDTH					

FIG. 2-19



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FIG. 2-20  
2-3709

USER ID	YEAR AND MONTH	INCREASED/DECREASED NUMBER OF NETWORK-NODE EQUIPMENTS	NUMBER OF INCREASING BANDWIDTH	TOTAL NUMBER OF WAVELENGTH PATH LINKS	DISCOUNT	CHARGE
1	2003.01	0	0	12	0	A
1	2003.02	0	0	12	0	A
1	2003.03	0	0	12	0	A
1	2003.04	1	0	14	0	B
1	2003.05	1	0	14	0	B

2-3710

TYPE OF LOGICAL NETWORK TOPOLOGY	MESH				MESH			
SPECIFIC MANAGEMENT NUMBER OF NETWORK-NODE EQUIPMENT	1				2			
SPECIFIC USER NUMBER OF NETWORK-NODE EQUIPMENT	1				2			
USER ID	1				1			
WAVELENGTH IN USE	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 1$	$\lambda 3$	$\lambda 4$	$\lambda 1$	$\lambda 2$
SPECIFIC MANAGEMENT NUMBER OF OTHER END OF NETWORK-NODE EQUIPMENT	2	3	4	1	3	4	1	2
TRANSMITTING STATUS OF WDM SIGNAL	0k	0k	0k	0k	0k	0k	0k	0k
RECEIVING STATUS OF WDM SIGNAL	0k	0k	0k	0k	0k	0k	0k	0k
CONNECTING STATUS OF NETWORK-NODE EQUIPMENT	0k	0k	0k	0k	0k	0k	0k	0k
NUMBER OF OPTICAL LINKS OF NETWORK-NODE EQUIPMENT	3				3			
ADDING BANDWIDTH OF LINK								
LENGTH OF TIME FOR INCREASING BANDWIDTH								

## BANDWIDTH ADDITION

## BANDWIDTH ADDITION

## BANDWIDTH ADDITION

[illegible]

## BANDWIDTH ADDITION

ONE MONTH

## BANDWIDTH ADDITION

ONE MONTH

## BANDWIDTH ADDITION

ONE MONTH

**2-3802**

FIG. 2-22

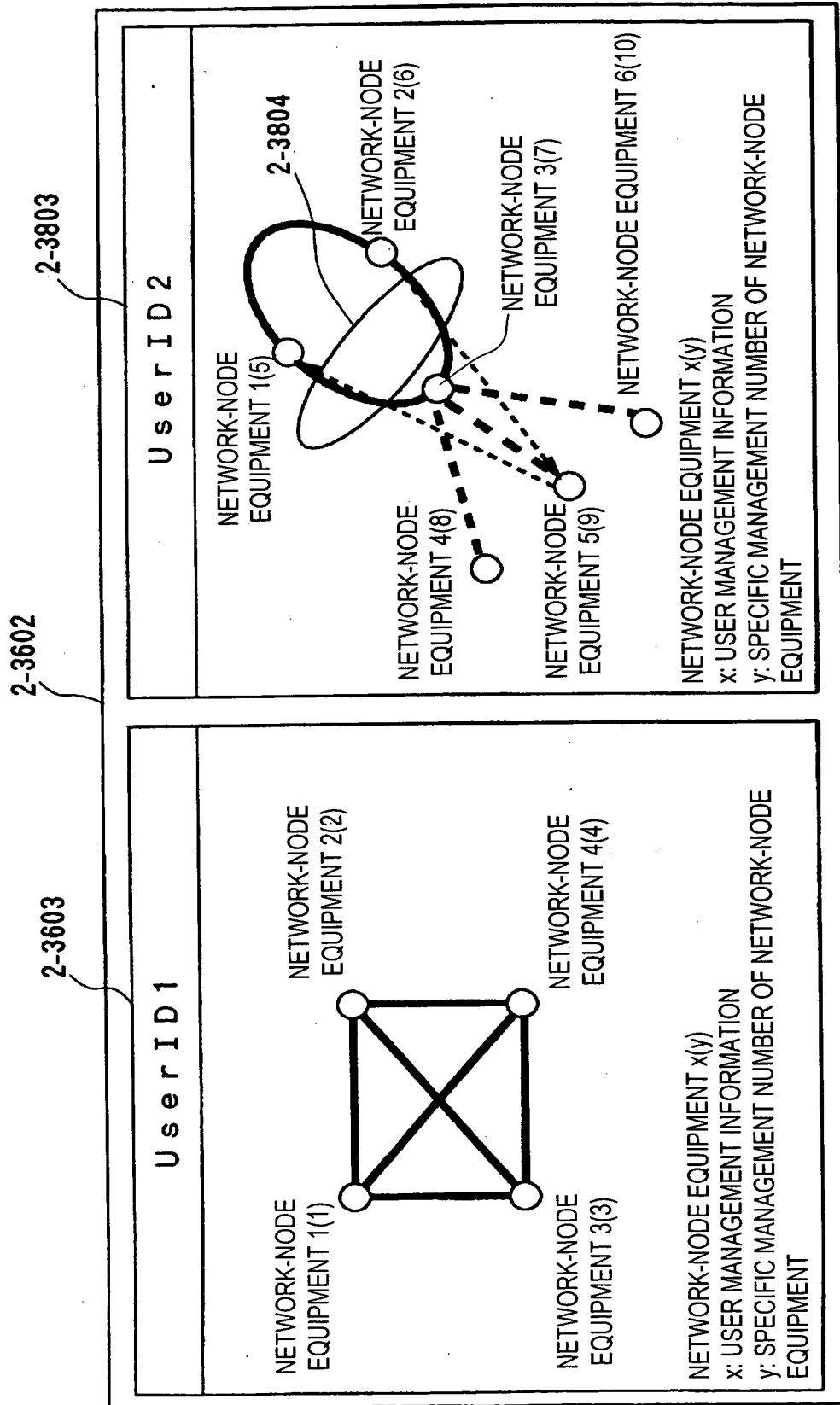


FIG. 2-23

2-3805

USER ID	YEAR AND MONTH	INCREASED/DECREASED NUMBER OF NETWORK-NODE EQUIPMENTS	NUMBER OF INCREASING BANDWIDTH	TOTAL NUMBER OF WAVELENGTH PATH LINKS	DISCOUNT	CHARGE
1	2003.01	0	0	12	0	A
1	2003.02	0	0	12	0	A
1	2003.03	0	0	12	0	A
1	2003.04	0	0	12	0	A
1	2003.05	0	0	12	0	A
2	2003.01	0	0	12	0	A
2	2003.02	0	0	12	0	A
2	2003.03	0	0	12	0	A
2	2003.04	0	0	12	0	A
2	2003.05	0	1	16	0	C

2-3806



[illegible]

FIG. 2-25

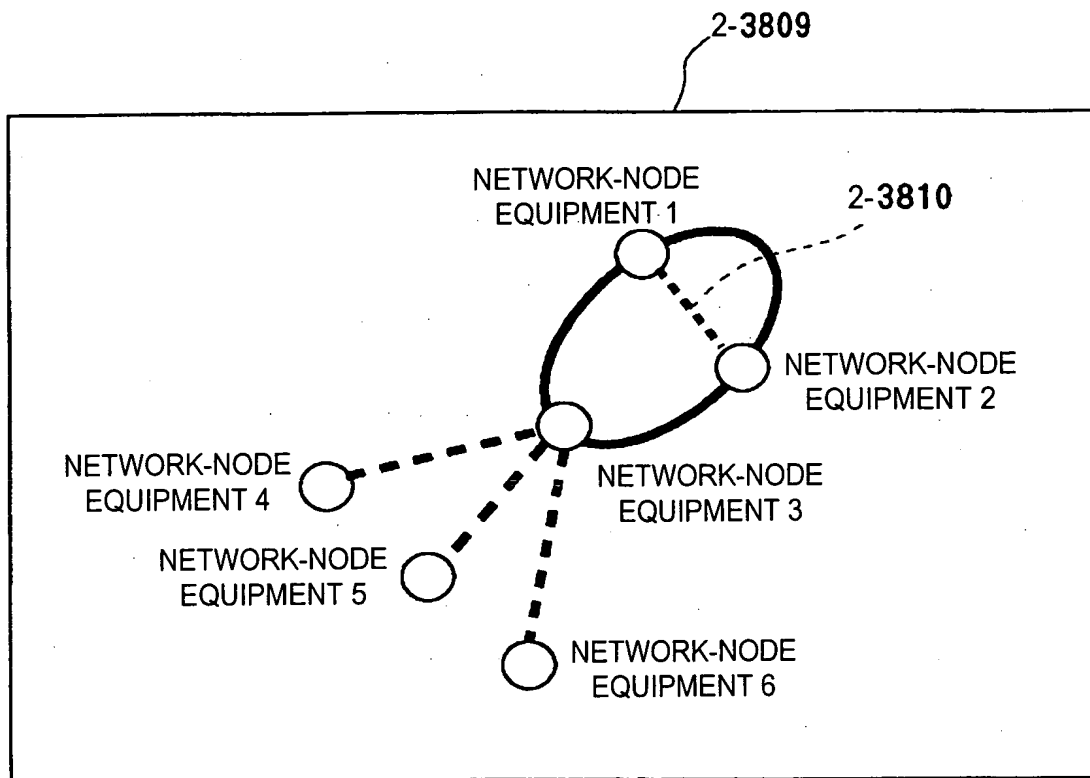


FIG. 2-26

2-3811

USER ID	YEAR AND MONTH	INCREASED/DECREASED NUMBER OF NETWORK-NODE EQUIPMENTS	NUMBER OF INCREASING BANDWIDTH	TOTAL NUMBER OF WAVELENGTH PATH LINKS	DISCOUNT	CHARGE
2	2003.01	0	0	12	0	A
2	2003.02	0	0	12	0	A
2	2003.03	0	0	12	0	A
2	2003.04	0	0	12	0	A
2	2003.05	0	1	16	0	C

2-3812

**2-3901**

## BANDWIDTH ADDITION

## BANDWIDTH ADDITION

## BANDWIDTH ADDITION

—ONE MONTH.

ONE MONTH

**2-3902**

FIG. 2-28

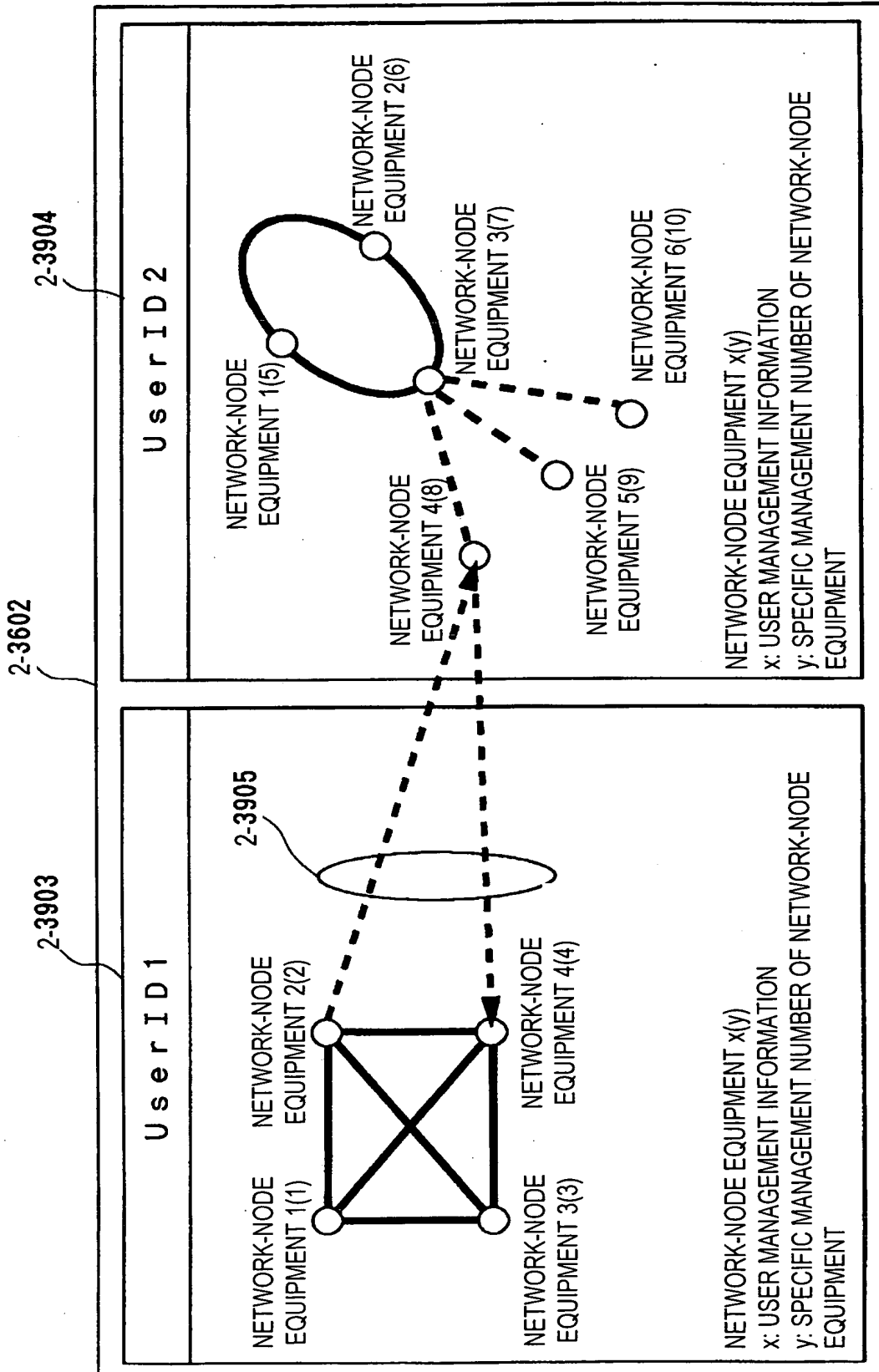


FIG. 2-29

2-3906

USER ID	YEAR AND MONTH	INCREASED/DECREASED NUMBER OF NETWORK-NODE EQUIPMENTS	NUMBER OF INCREASING BANDWIDTH	TOTAL NUMBER OF WAVELENGTH PATH LINKS	DISCOUNT	CHARGE
1	2003.01	0	0	12	0	A
1	2003.02	0	0	12	0	A
1	2003.03	0	0	12	0	A
1	2003.04	0	0	12	0	A
1	2003.05	0	1	16	0	C
2	2003.01	0	0	12	0	A
2	2003.02	0	0	12	0	A
2	2003.03	0	0	12	0	A
2	2003.04	0	0	12	0	A
2	2003.05	0	0	12	0	D

2-3907

2-3908

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FIG. 2-30

TYPE OF LOGICAL NETWORK TOPOLOGY	MESH				MESH				MESH				MESH			
SPECIFIC USER NUMBER OF NETWORK-NODE EQUIPMENT	1				2				3				4			
WAVELENGTH IN USE	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 1$	$\lambda 4$	$\lambda 3$	$\lambda 1$	$\lambda 2$	$\lambda 4$	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 1$	$\lambda 2$	$\lambda 3$
SPECIFIC MANAGEMENT NUMBER OF OTHER END OF NETWORK-NODE EQUIPMENT	2	3	4	4	3	1	4	4	4	1	2	3	2	3	1	2
TRANSMITTING STATUS OF WDM SIGNAL	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k
RECEIVING STATUS OF WDM SIGNAL	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k
CONNECTING STATUS OF NETWORK-NODE EQUIPMENT	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k
NUMBER OF OPTICAL LINKS OF NETWORK-NODE EQUIPMENT	3				4				3				4			
ADDING BANDWIDTH OF LINK																
LENGTH OF TIME FOR INCREASING BANDWIDTH																

2-3909 BANDWIDTH ADDITION

2-3910 BANDWIDTH ADDITION

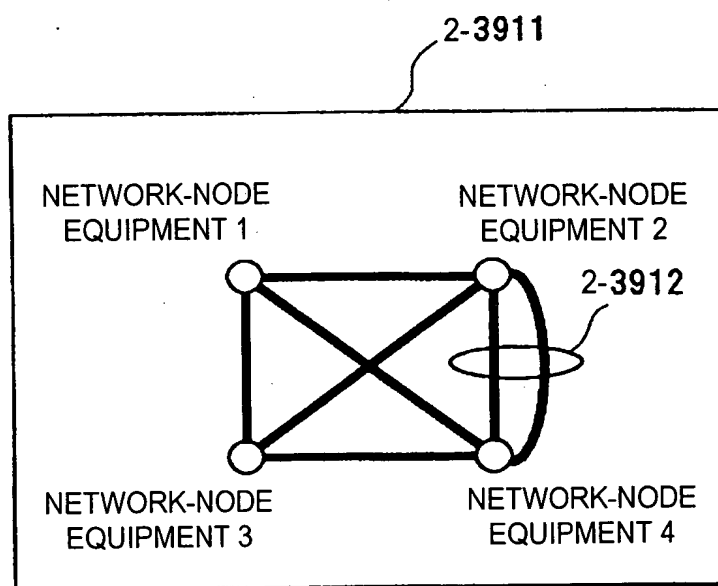
BANDWIDTH ADDITION

ONE MONTH

BANDWIDTH ADDITION

ONE MONTH

FIG. 2-31





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FIG. 2-32

2-3913

USER ID	YEAR AND MONTH	INCREASED/DECREASED NUMBER OF NETWORK-NODE EQUIPMENTS	NUMBER OF INCREASING BANDWIDTH	TOTAL NUMBER OF WAVELENGTH PATH LINKS	DISCOUNT	CHARGE
1	2003.01	0	0	12	0	A
1	2003.02	0	0	12	0	A
1	2003.03	0	0	12	0	A
1	2003.04	0	0	12	0	A
1	2003.05	0	1	16	0	C

2-3914

FIG. 2-33

2-3915

USER ID	YEAR AND MONTH	INCREASED/DECREASED NUMBER OF NETWORK-NODE EQUIPMENTS	NUMBER OF INCREASING BANDWIDTH	TOTAL NUMBER OF WAVELENGTH PATH LINKS	DISCOUNT	CHARGE
2	2003.01	0	0	12	0	A
2	2003.02	0	0	12	0	A
2	2003.03	0	0	12	0	A
2	2003.04	0	0	12	0	A
2	2003.05	0	0	12	$\alpha$	D

2-3916

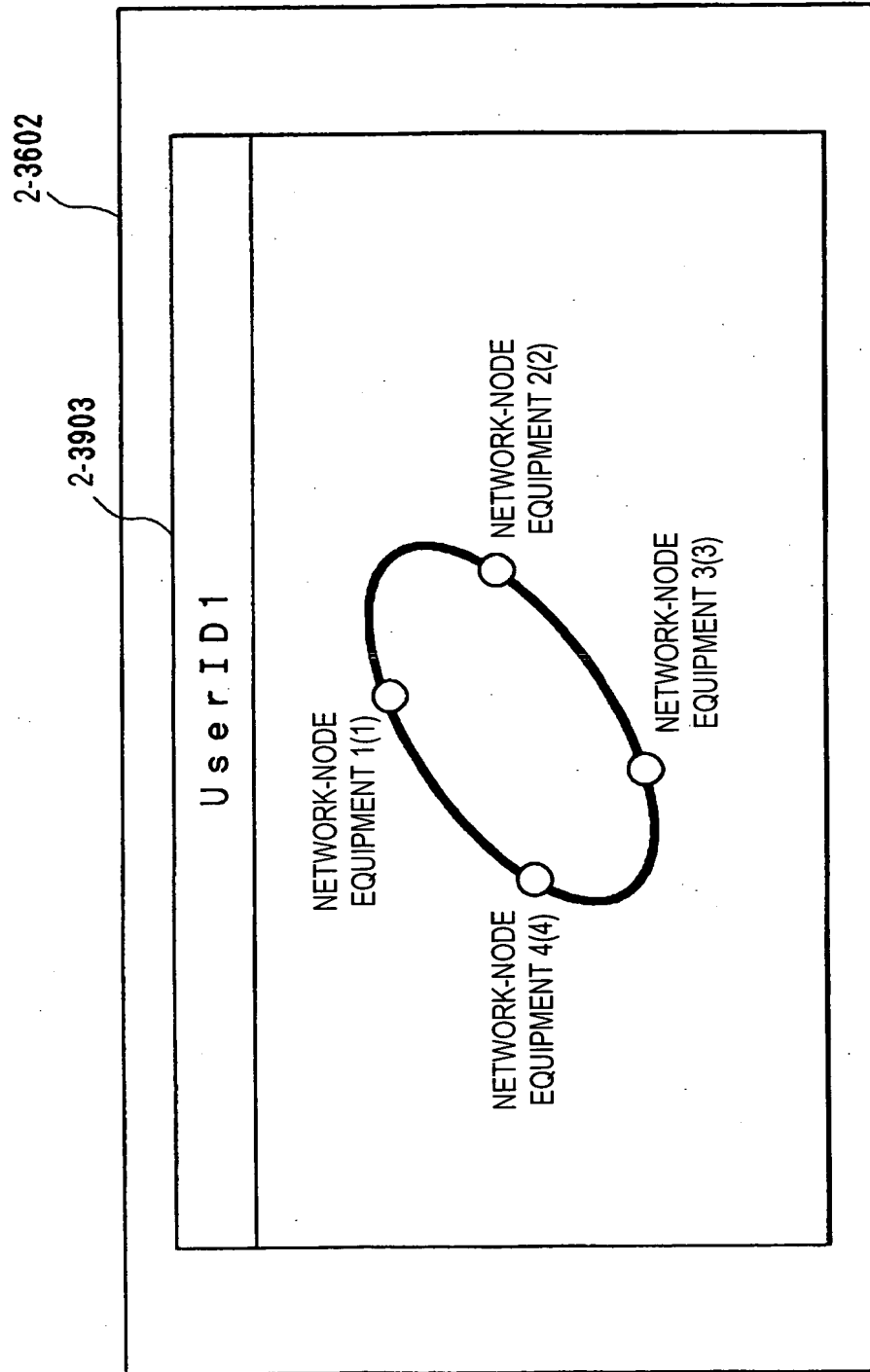
FIG. 2-34  
 2-4001

TYPE OF LOGICAL NETWORK TOPOLOGY	RING		RING		RING		RING	
SPECIFIC MANAGEMENT NUMBER OF NETWORK-NODE EQUIPMENT	1		2		3		4	
SPECIFIC USER NUMBER OF NETWORK-NODE EQUIPMENT	1		2		3		4	
USER ID	1		1		1		1	
WAVELENGTH IN USE	$\lambda\delta$	$\lambda\alpha$	$\lambda\alpha$	$\lambda\beta$	$\lambda\beta$	$\lambda\gamma$	$\lambda\gamma$	$\lambda\delta$
SPECIFIC MANAGEMENT NUMBER OF OTHER END OF NETWORK-NODE EQUIPMENT	1	2	1	3	2	4	3	1
TRANSMITTING STATUS OF WDM SIGNAL	0k	0k	0k	0k	0k	0k	0k	0k
RECEIVING STATUS OF WDM SIGNAL	0k	0k	0k	0k	0k	0k	0k	0k
CONNECTING STATUS OF NETWORK-NODE EQUIPMENT	0k	0k	0k	0k	0k	0k	0k	0k
NUMBER OF OPTICAL LINKS OF NETWORK-NODE EQUIPMENT	2		2		2		2	
ADDING BANDWIDTH OF LINK								
LENGTH OF TIME FOR INCREASING BANDWIDTH								

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FIG. 2-35



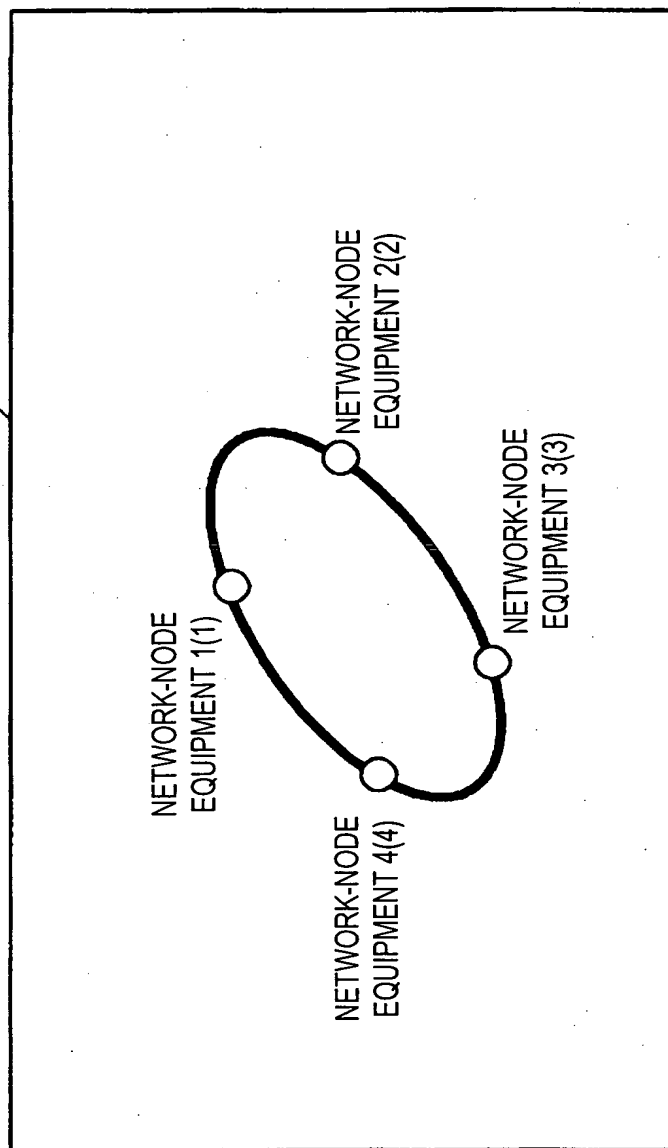
2-4003

FIG. 2-36

TYPE OF LOGICAL NETWORK TOPOLOGY	RING		RING		RING		RING	
SPECIFIC USER NUMBER OF NETWORK-NODE EQUIPMENT	1		2		3		4	
WAVELENGTH IN USE	$\lambda\delta$	$\lambda\alpha$	$\lambda\alpha$	$\lambda\beta$	$\lambda\beta$	$\lambda\gamma$	$\lambda\gamma$	$\lambda\delta$
SPECIFIC MANAGEMENT NUMBER OF OTHER END OF NETWORK-NODE EQUIPMENT	1	2	1	3	2	4	3	1
TRANSMITTING STATUS OF WDM SIGNAL	0k	0k	0k	0k	0k	0k	0k	0k
RECEIVING STATUS OF WDM SIGNAL	0k	0k	0k	0k	0k	0k	0k	0k
CONNECTING STATUS OF NETWORK-NODE EQUIPMENT	0k	0k	0k	0k	0k	0k	0k	0k
NUMBER OF OPTICAL LINKS OF NETWORK-NODE EQUIPMENT	2		2		2		2	
ADDING BANDWIDTH OF LINK								
LENGTH OF TIME FOR INCREASING BANDWIDTH								

FIG. 2-37

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FIG. 2-38

2-4005

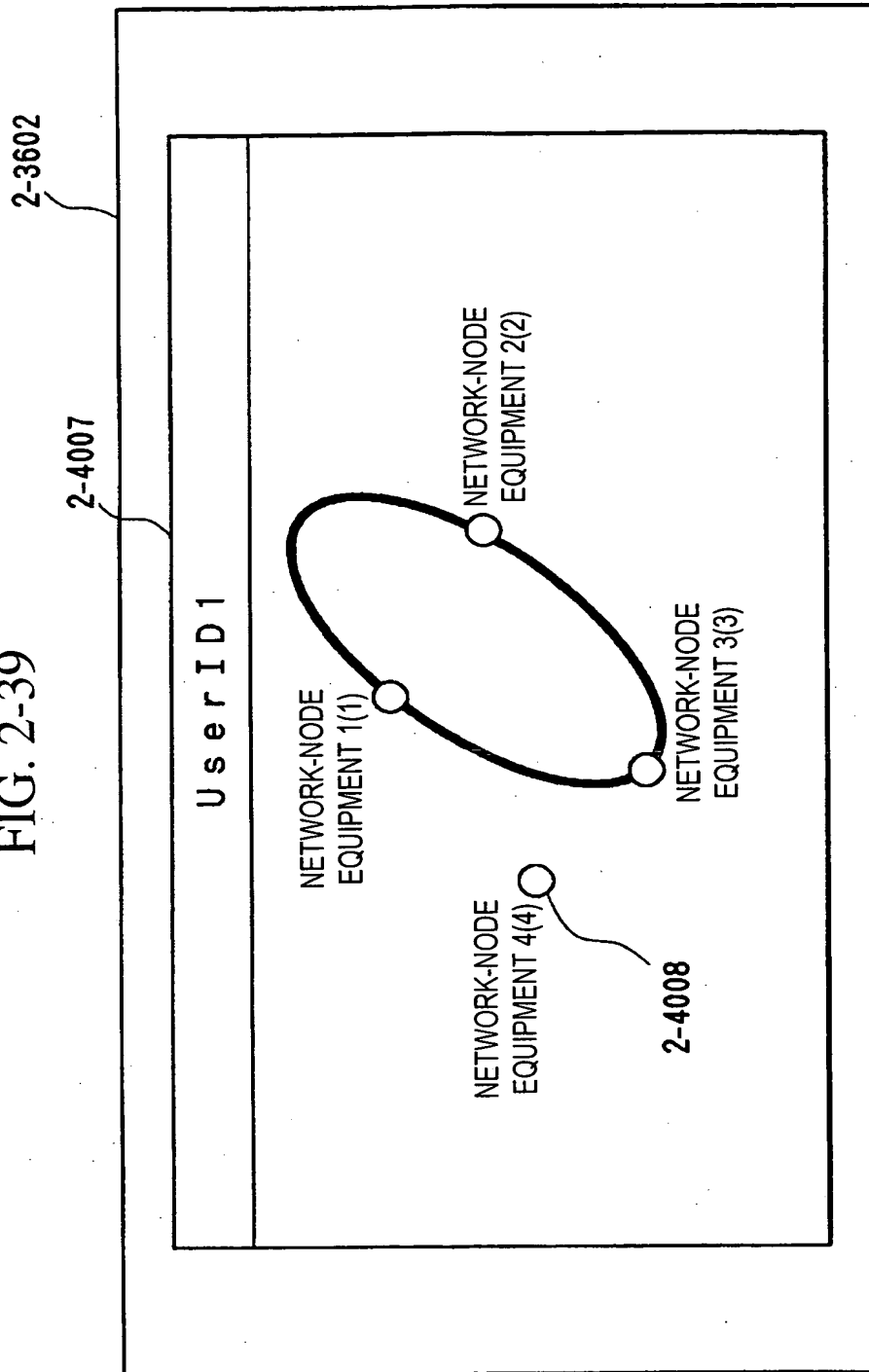
TYPE OF LOGICAL NETWORK TOPOLOGY	RING				RING				RING				RING			
SPECIFIC MANAGEMENT NUMBER OF NETWORK-NODE EQUIPMENT	1				2				3				4			
SPECIFIC USER NUMBER OF NETWORK-NODE EQUIPMENT	1				2				3				4			
USER ID	1				1				1				1			
WAVELENGTH IN USE	$\lambda\delta$	$\lambda\alpha$	$\lambda\beta$	$\lambda\gamma$	$\lambda\alpha$	$\lambda\beta$	$\lambda\gamma$	$\lambda\delta$	$\lambda\alpha$	$\lambda\beta$	$\lambda\gamma$	$\lambda\delta$	$\lambda\alpha$	$\lambda\beta$	$\lambda\gamma$	$\lambda\delta$
SPECIFIC MANAGEMENT NUMBER OF OTHER END OF NETWORK-NODE EQUIPMENT	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
TRANSMITTING STATUS OF WDM SIGNAL	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k
RECEIVING STATUS OF WDM SIGNAL	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k
CONNECTING STATUS OF NETWORK-NODE EQUIPMENT	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k
NUMBER OF OPTICAL LINKS OF NETWORK-NODE EQUIPMENT	2				2				2				0			
ADDING BANDWIDTH OF LINK																
LENGTH OF TIME FOR INCREASING BANDWIDTH																

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FIG. 2-39





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FIG. 2-40

2-4009

USER ID	YEAR AND MONTH	INCREASED/DECREASED NUMBER OF NETWORK-NODE EQUIPMENTS	NUMBER OF INCREASING BANDWIDTH	TOTAL NUMBER OF WAVELENGTH PATH LINKS	DISCOUNT	CHARGE
1	2003.01	0	0	8	0	E
1	2003.02	0	0	8	0	E
1	2003.03	0	0	8	0	E
1	2003.04	0	0	8	0	E
1	2003.05	-1	0	6	00	F

2-4010

FIG. 2-41

2-4011

TYPE OF LOGICAL NETWORK TOPOLOGY	RING		RING		RING		RING		RING	
SPECIFIC USER NUMBER OF NETWORK-NODE EQUIPMENT	1		2		3		4			
WAVELENGTH IN USE	$\lambda\delta$	$\lambda\alpha$	$\lambda\alpha$	$\lambda\beta$	$\lambda\beta$	$\lambda\gamma$	$\lambda\gamma$	$\lambda\delta$	$\lambda\delta$	$\lambda\delta$
SPECIFIC MANAGEMENT NUMBER OF OTHER END OF NETWORK-NODE EQUIPMENT	1	2	1	3	2	4				
TRANSMITTING STATUS OF WDM SIGNAL	Ok	Ok	Ok	Ok	Ok	Ok	Off	Off	Off	Off
RECEIVING STATUS OF WDM SIGNAL	Ok	Ok	Ok	Ok	Ok	Ok	NG	NG	NG	NG
CONNECTING STATUS OF NETWORK-NODE EQUIPMENT	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok
NUMBER OF OPTICAL LINKS OF NETWORK-NODE EQUIPMENT	2		2		2		0			
ADDING BANDWIDTH OF LINK										
LENGTH OF TIME FOR INCREASING BANDWIDTH										

2-4011

FIG. 2-42

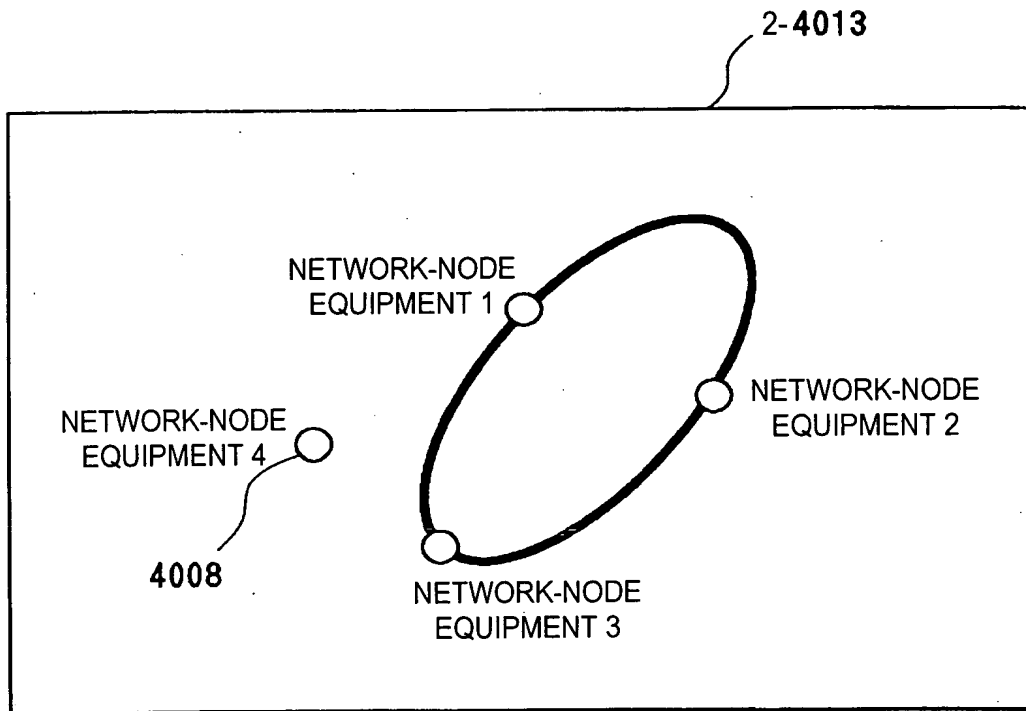


FIG. 2-43

2-4014

USER ID	YEAR AND MONTH	INCREASED/DECREASED NUMBER OF NETWORK-NODE EQUIPMENTS	NUMBER OF INCREASING BANDWIDTH	TOTAL NUMBER OF WAVELENGTH PATH LINKS	DISCOUNT	CHARGE
1	2003.01	0	0	8	0	E
1	2003.02	0	0	8	0	E
1	2003.03	0	0	8	0	E
1	2003.04	0	0	8	0	E
1	2003.05	-1	0	6	0	F

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FIG. 3-1

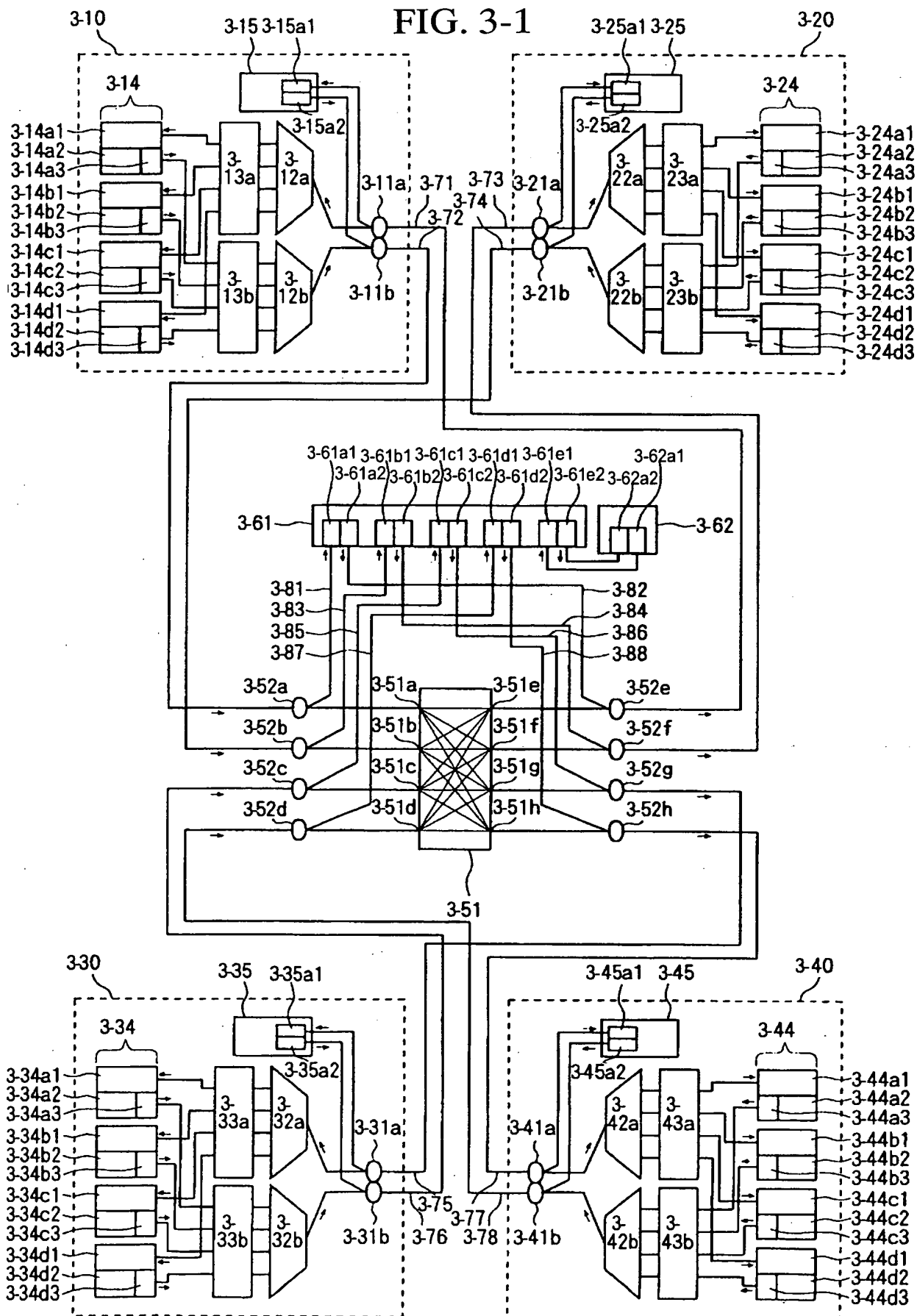


FIG. 3-2A

OPTICAL INPUT PORT

OPTICAL OUTPUT PORT

	1 (3-51e)	2 (3-51f)	3 (3-51g)	4 (3-51h)
1 (3-51a)	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$
2 (3-51b)	$\lambda 4$	$\lambda 1$	$\lambda 2$	$\lambda 3$
3 (3-51c)	$\lambda 3$	$\lambda 4$	$\lambda 1$	$\lambda 2$
4 (3-51d)	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 1$

FIG. 3-2B

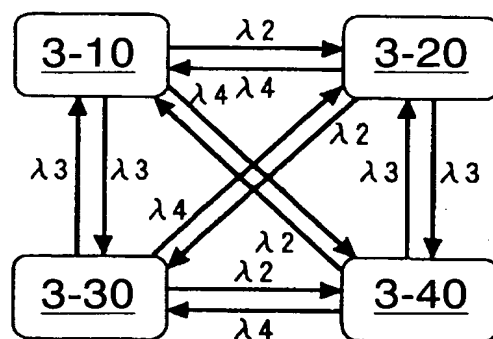


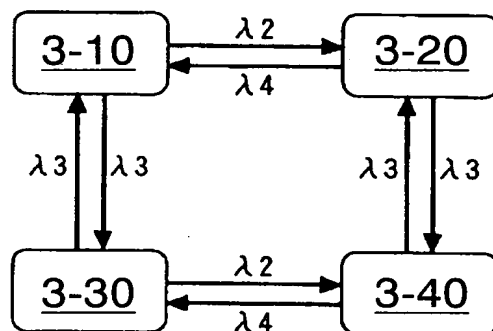
FIG. 3-3A

OPTICAL INPUT PORT

OPTICAL OUTPUT PORT

	1 (3-51e)	2 (3-51f)	3 (3-51g)	4 (3-51h)
1 (3-51a)	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$
2 (3-51b)	$\lambda 4$	$\lambda 1$	$\lambda 2$	$\lambda 3$
3 (3-51c)	$\lambda 3$	$\lambda 4$	$\lambda 1$	$\lambda 2$
4 (3-51d)	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 1$

FIG. 3-3B



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 FIG. 3-4

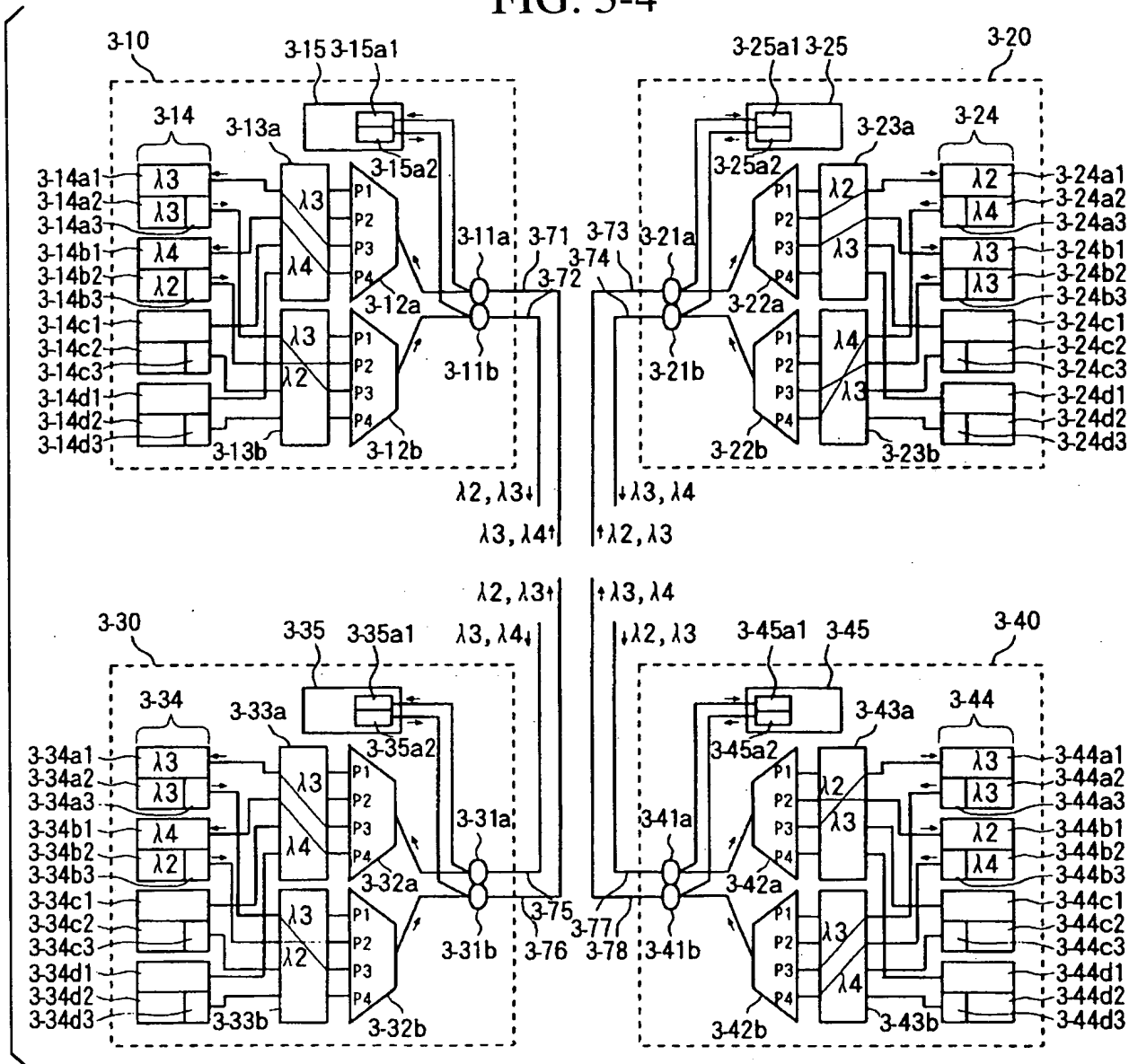
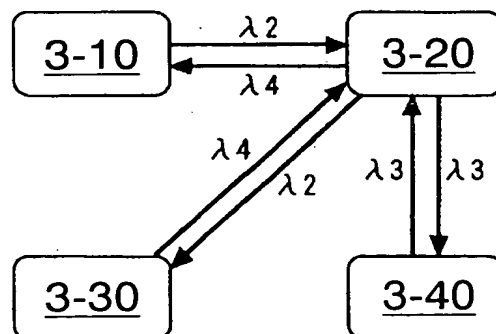


FIG. 3-5A

OPTICAL INPUT PORT  
 OPTICAL OUTPUT PORT

	1 (3-51e)	2 (3-51f)	3 (3-51g)	4 (3-51h)
1 (3-51a)	$\lambda_1$	$\lambda_2$	$\lambda_3$	$\lambda_4$
2 (3-51b)	$\lambda_4$	$\lambda_1$	$\lambda_2$	$\lambda_3$
3 (3-51c)	$\lambda_3$	$\lambda_4$	$\lambda_1$	$\lambda_2$
4 (3-51d)	$\lambda_2$	$\lambda_3$	$\lambda_4$	$\lambda_1$

FIG. 3-5B



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FIG. 3-6

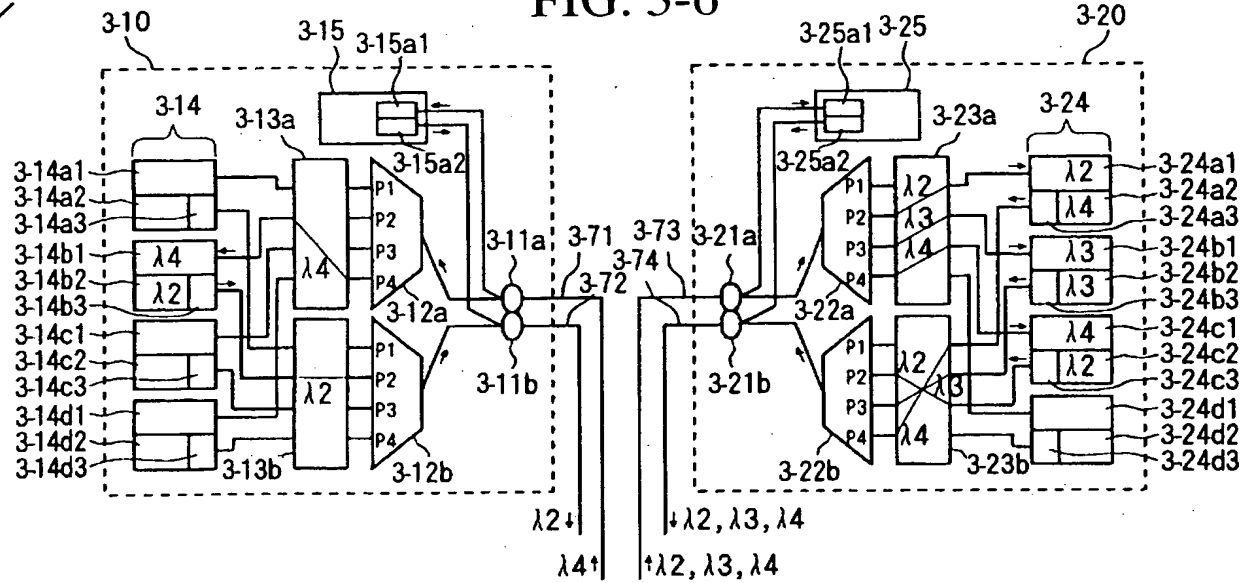


FIG. 3-7A

OPTICAL INPUT PORT  
 OPTICAL OUTPUT PORT

	1 (3-51e)	2 (3-51f)	3 (3-51g)	4 (3-51h)
1 (3-51a)	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$
2 (3-51b)	$\lambda 4$	$\lambda 1$	$\lambda 2$	$\lambda 3$
3 (3-51c)	$\lambda 3$	$\lambda 4$	$\lambda 1$	$\lambda 2$
4 (3-51d)	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 1$

FIG. 3-7B

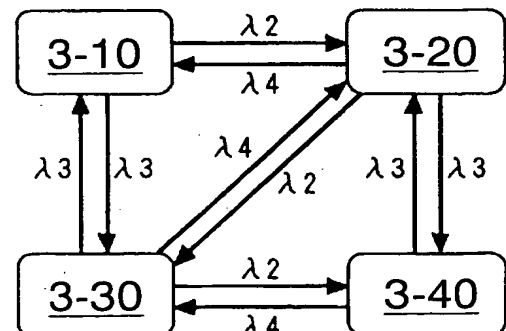




FIG. 3-8

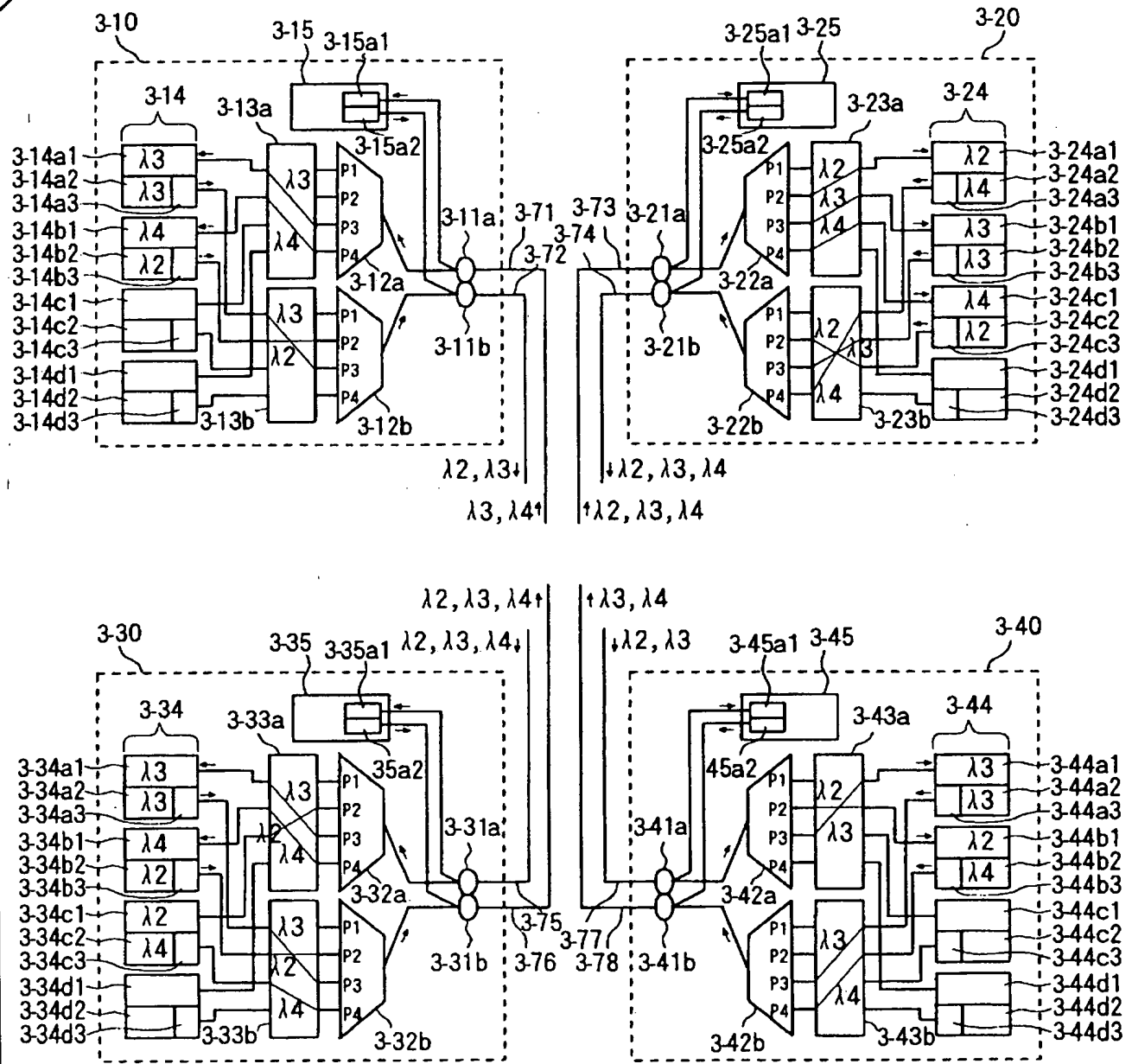


FIG. 3-9

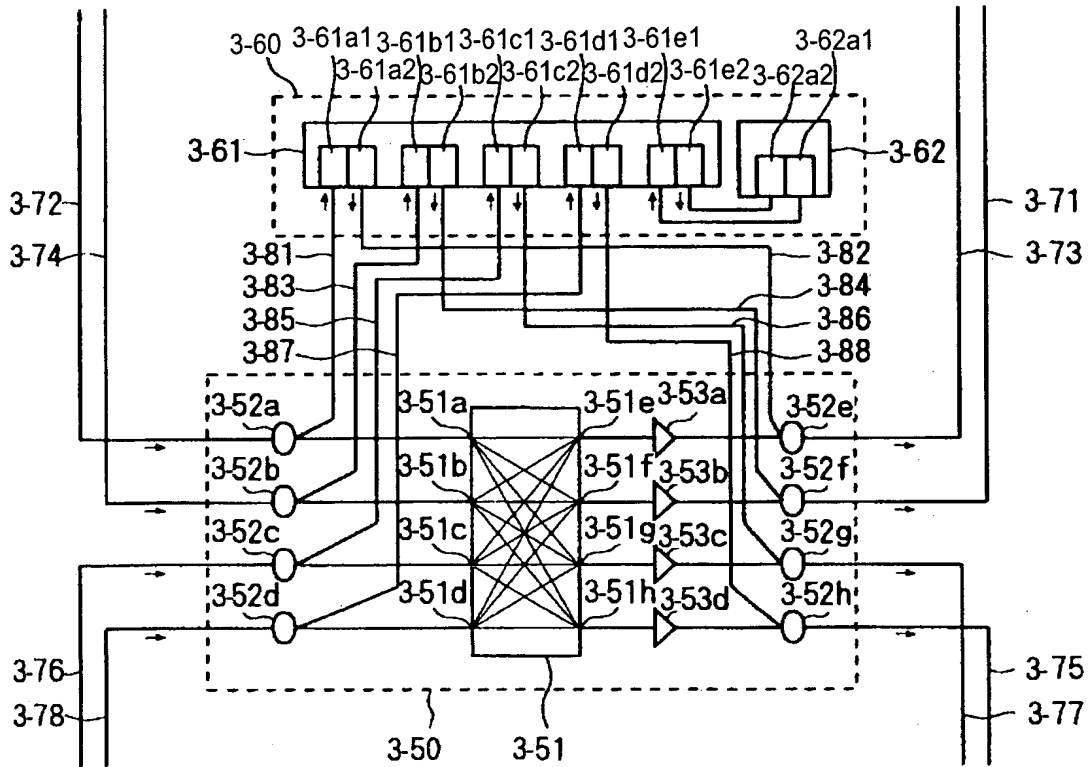


FIG. 3-10

OPTICAL INPUT PORT

OPTICAL OUTPUT PORT

	1 (3-51e)	2 (3-51f)	3 (3-51g)	4 (3-51h)
1 (3-51a)	$\lambda 1$	$\lambda 2$	$\lambda 3$	$\lambda 4$
2 (3-51b)	$\lambda 2$	$\lambda 3$	$\lambda 4$	$\lambda 5$
3 (3-51c)	$\lambda 3$	$\lambda 4$	$\lambda 5$	$\lambda 6$
4 (3-51d)	$\lambda 4$	$\lambda 5$	$\lambda 6$	$\lambda 7$

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FIG. 3-11

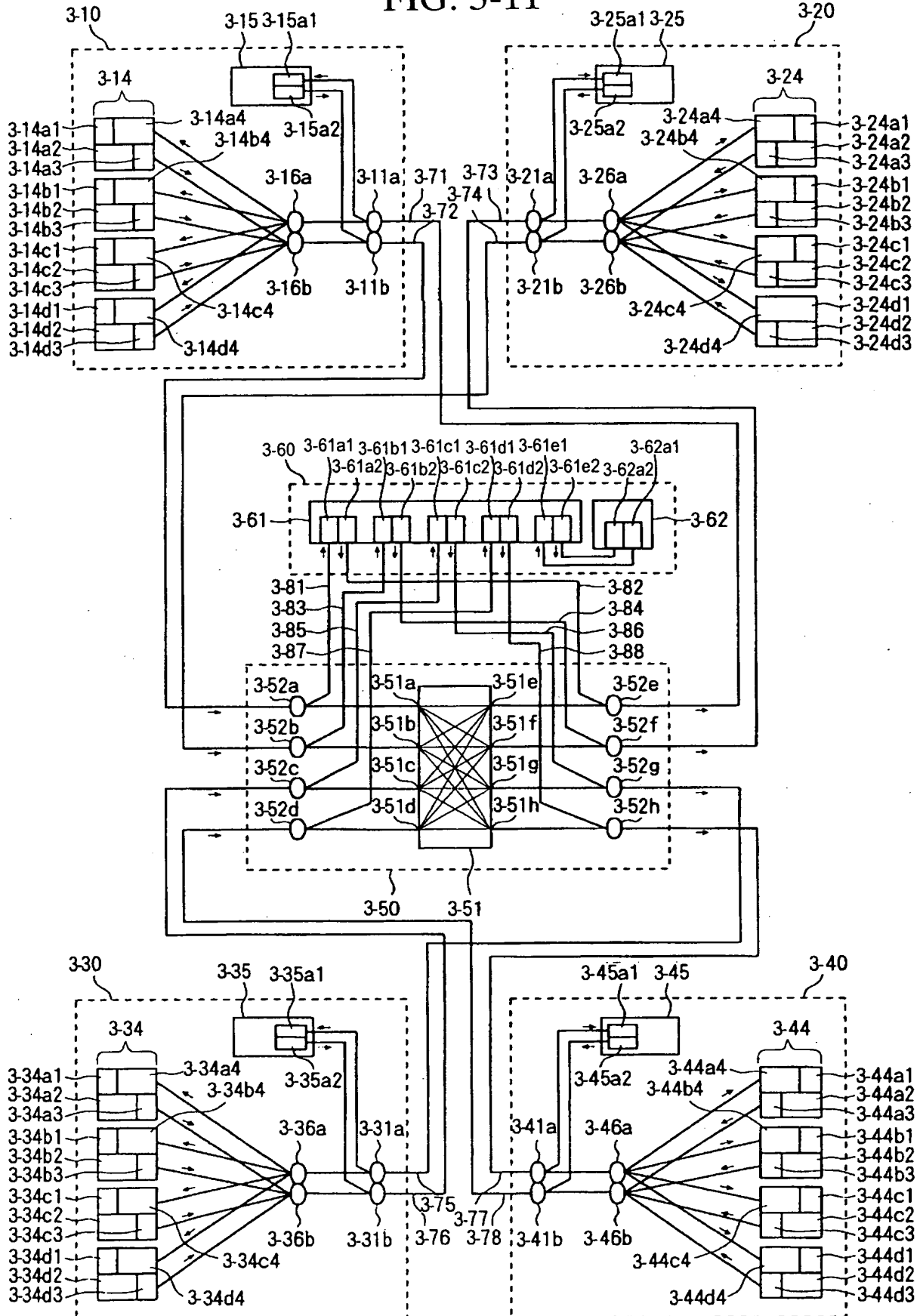
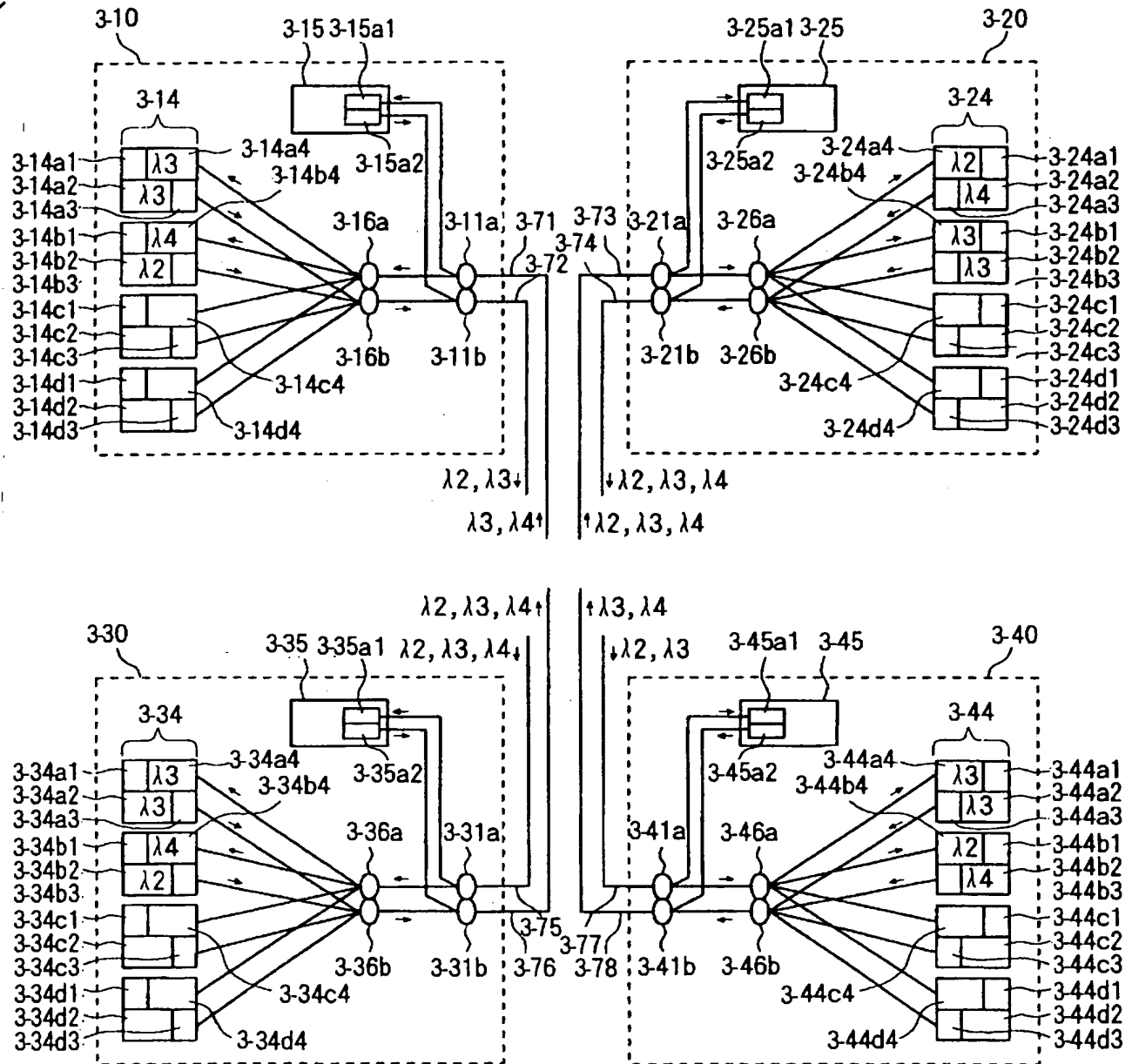


FIG. 3-12



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FIG. 3-13

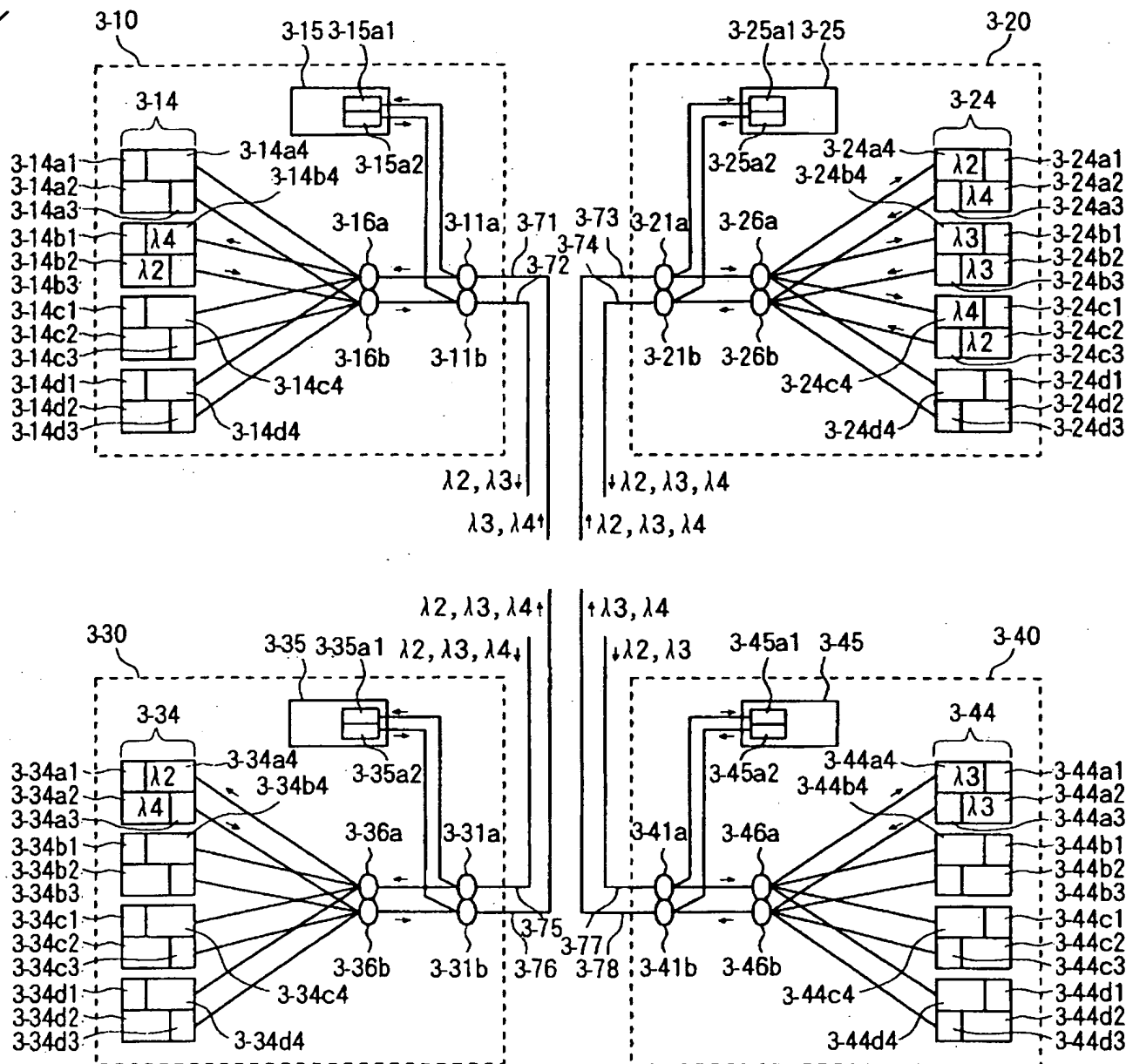
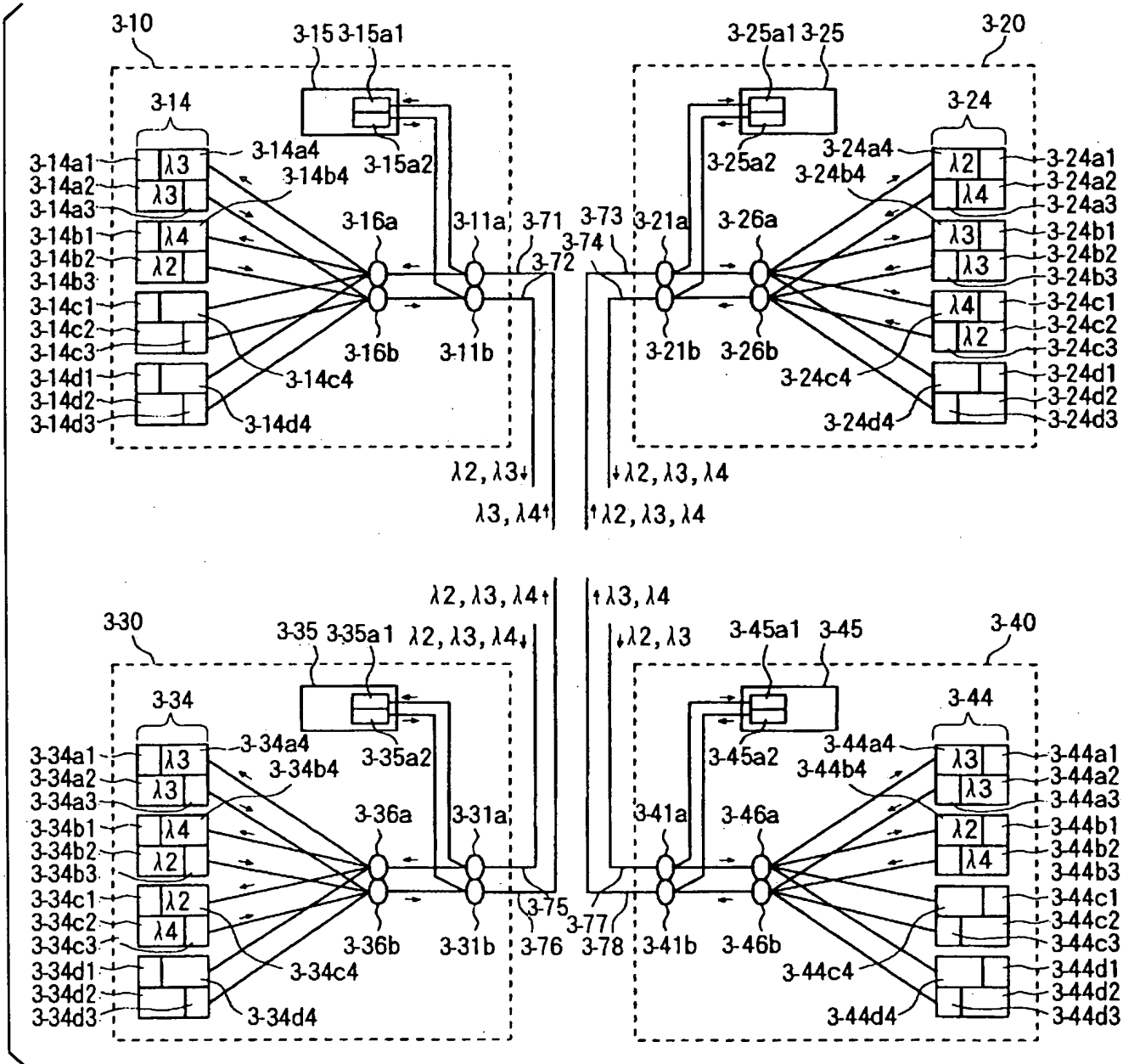
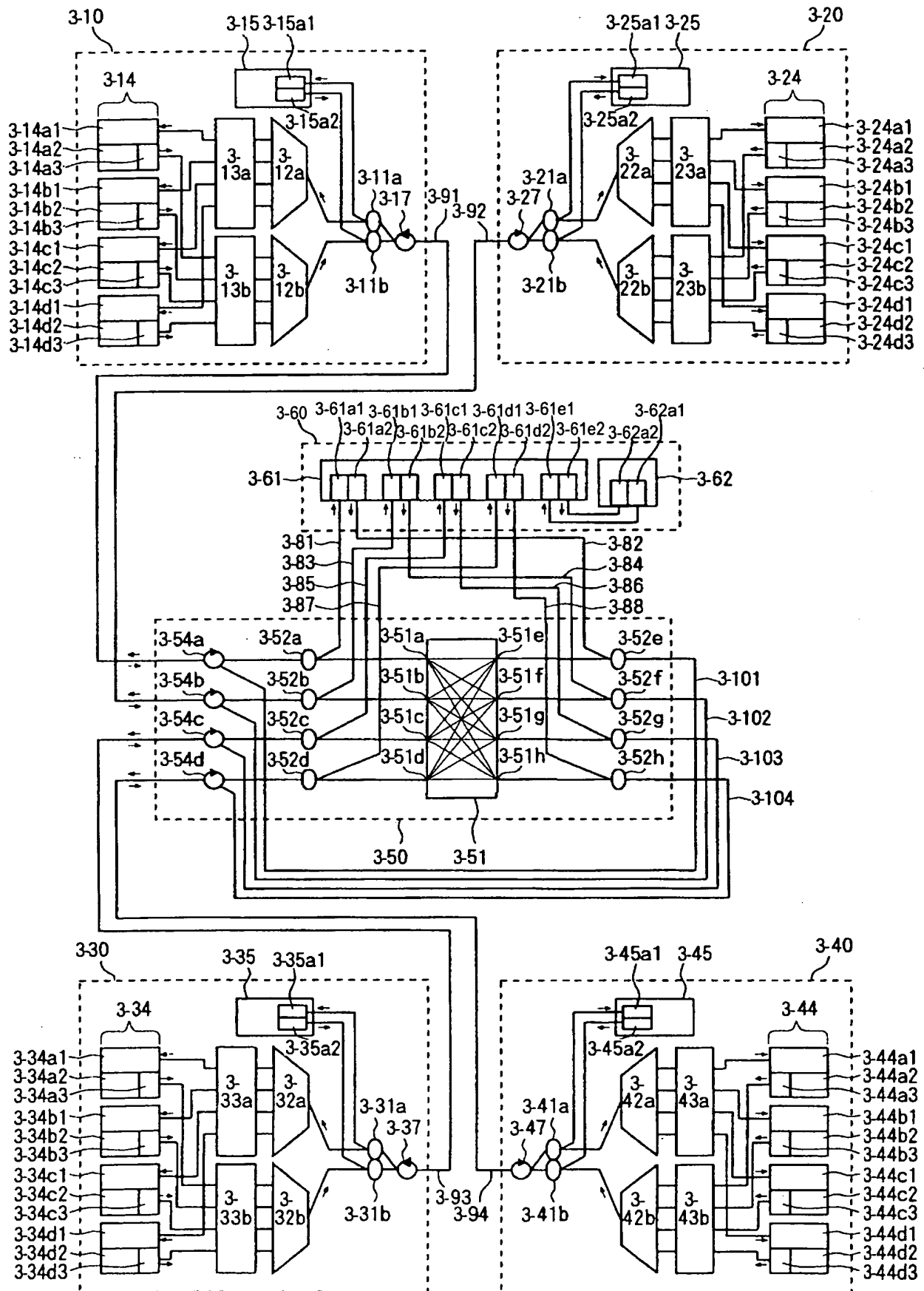


FIG. 3-14

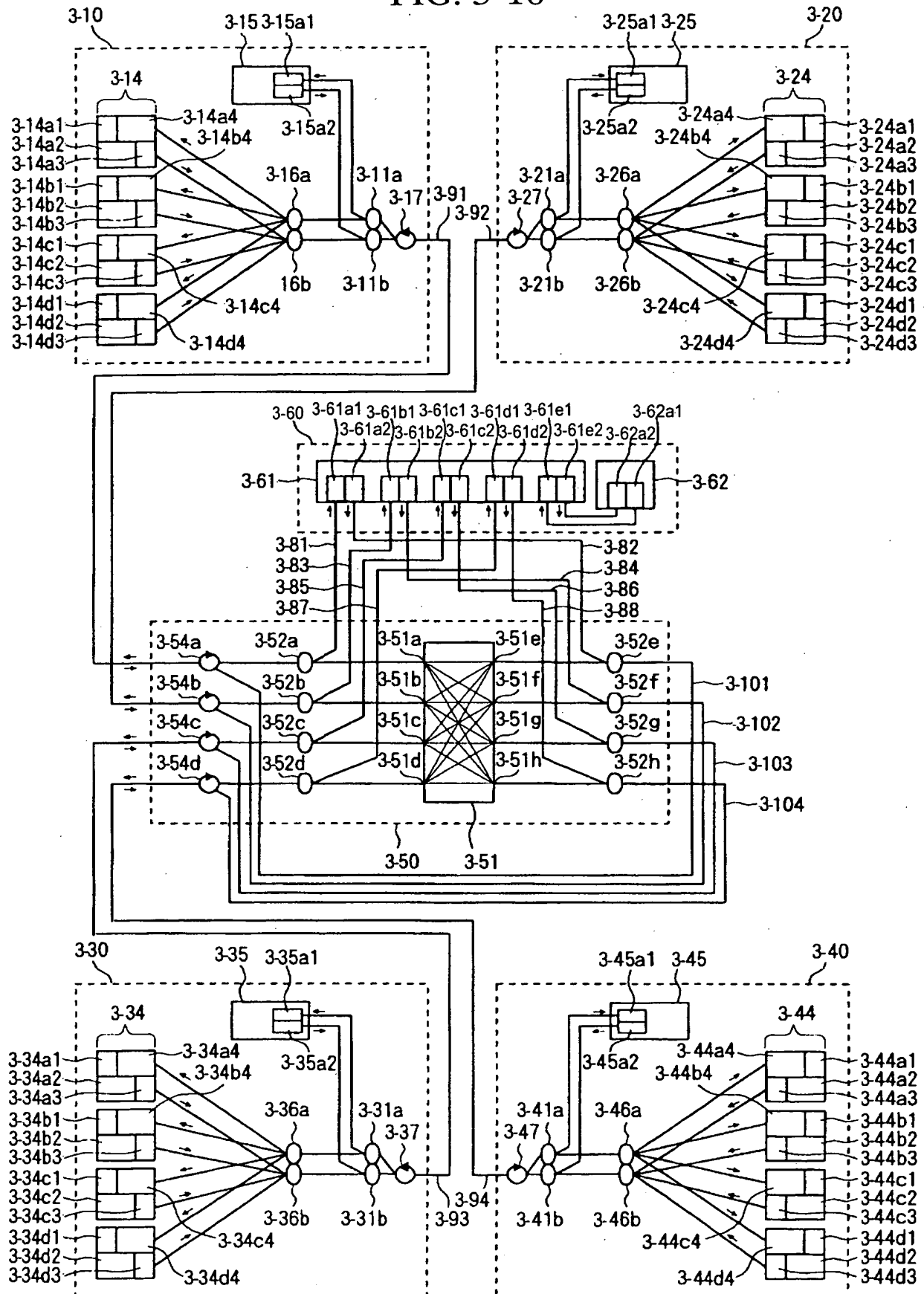


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FIG. 3-15



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FIG. 12-16





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FIG. 3-17

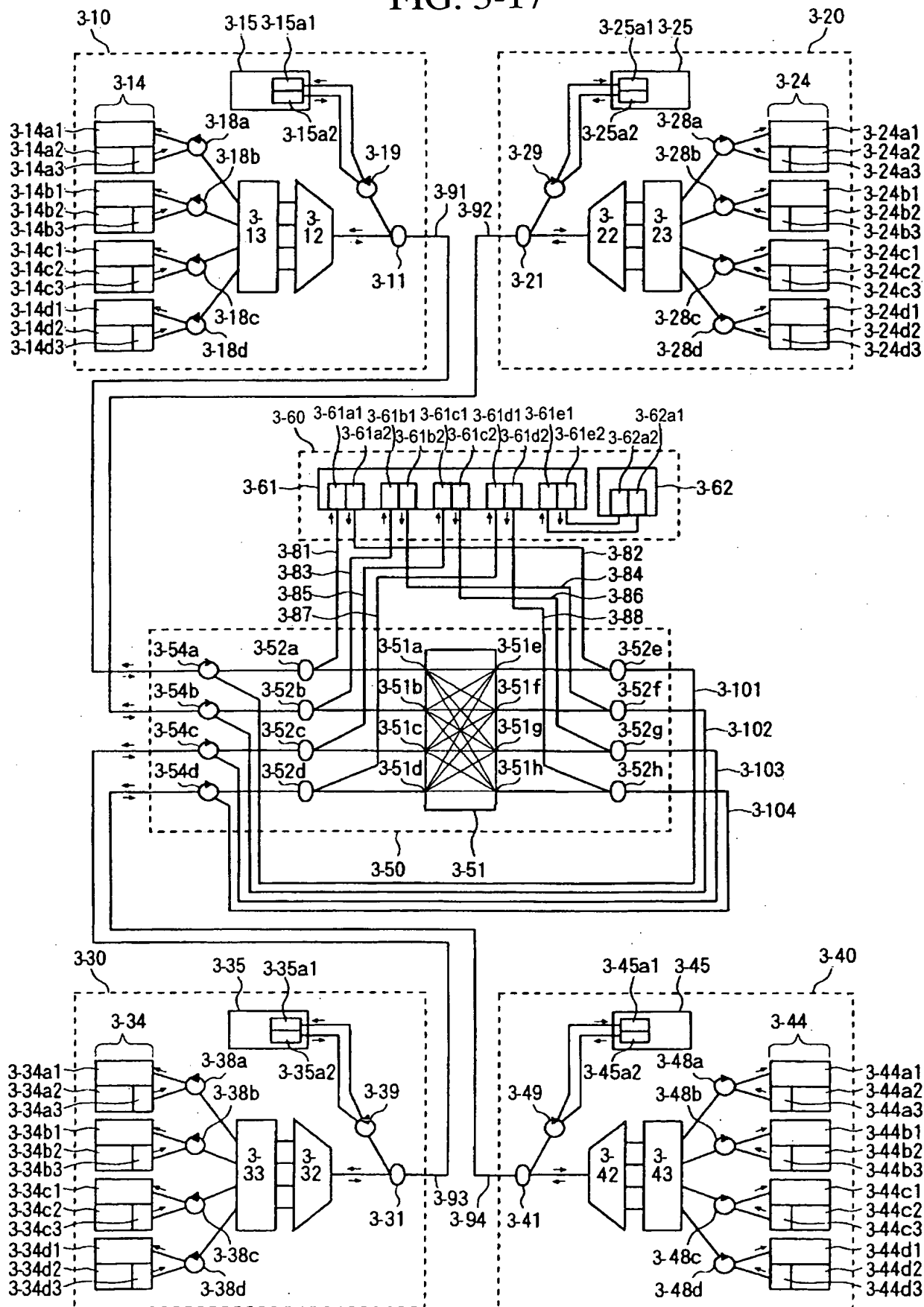


FIG. 4-1

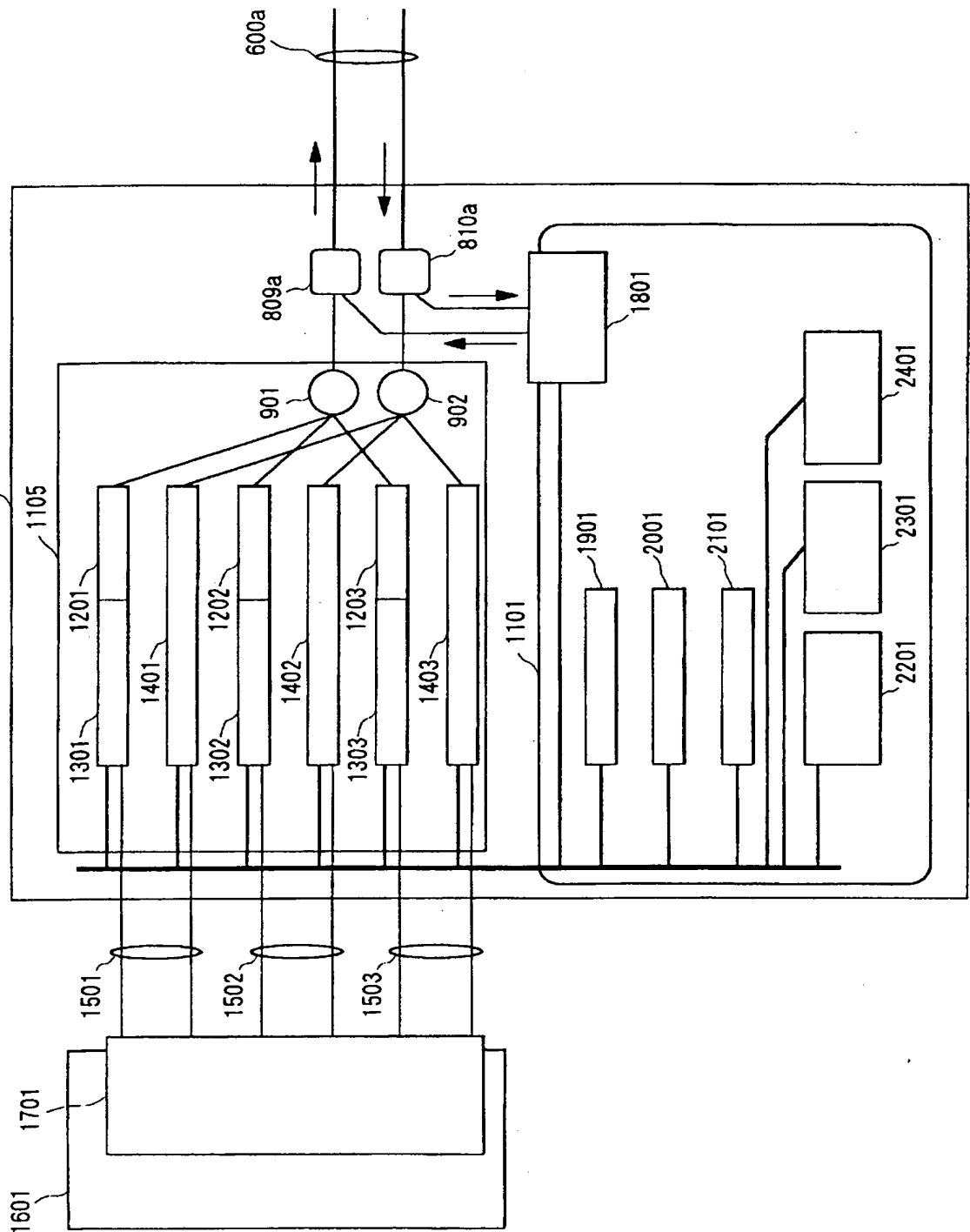
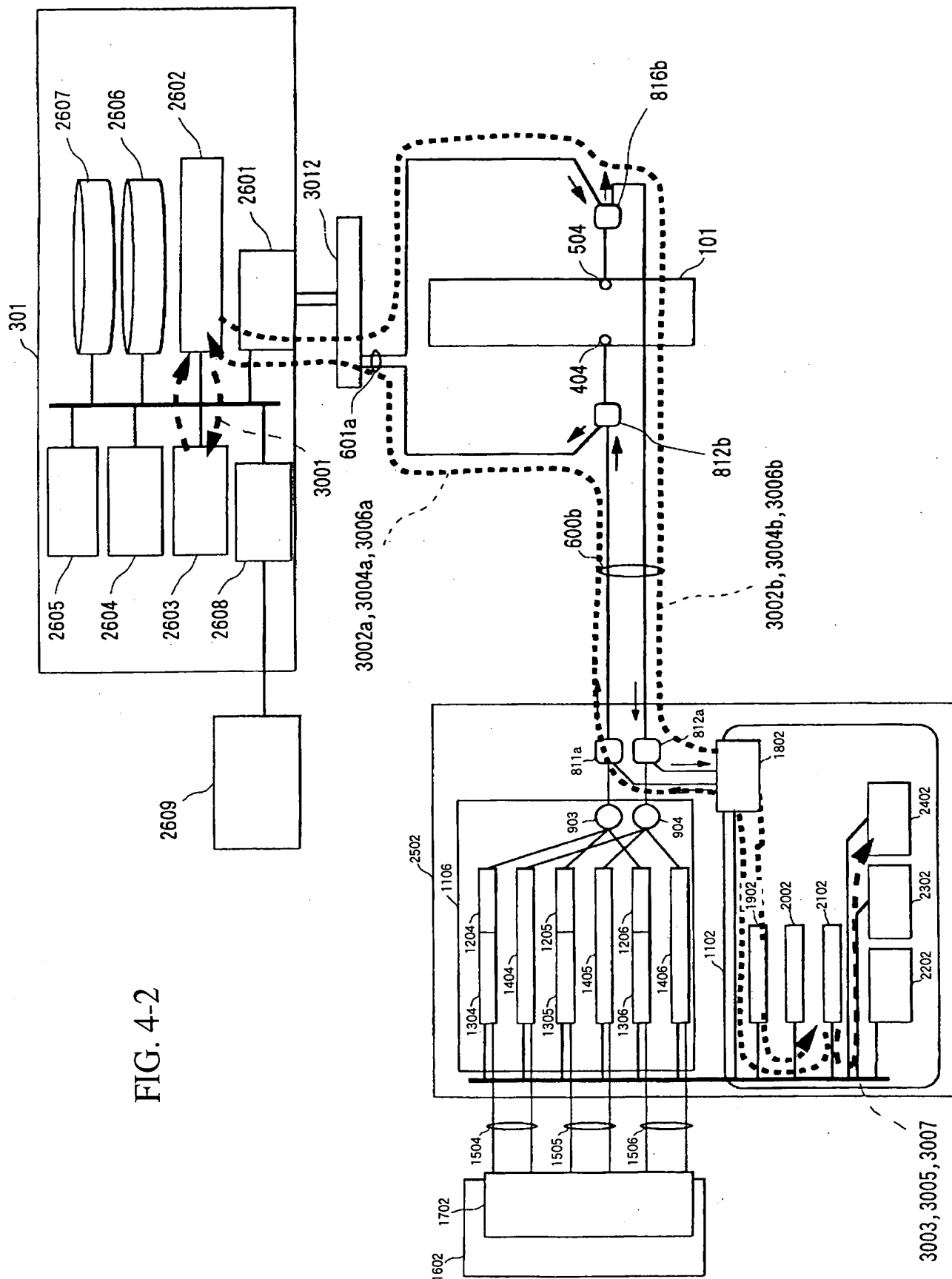
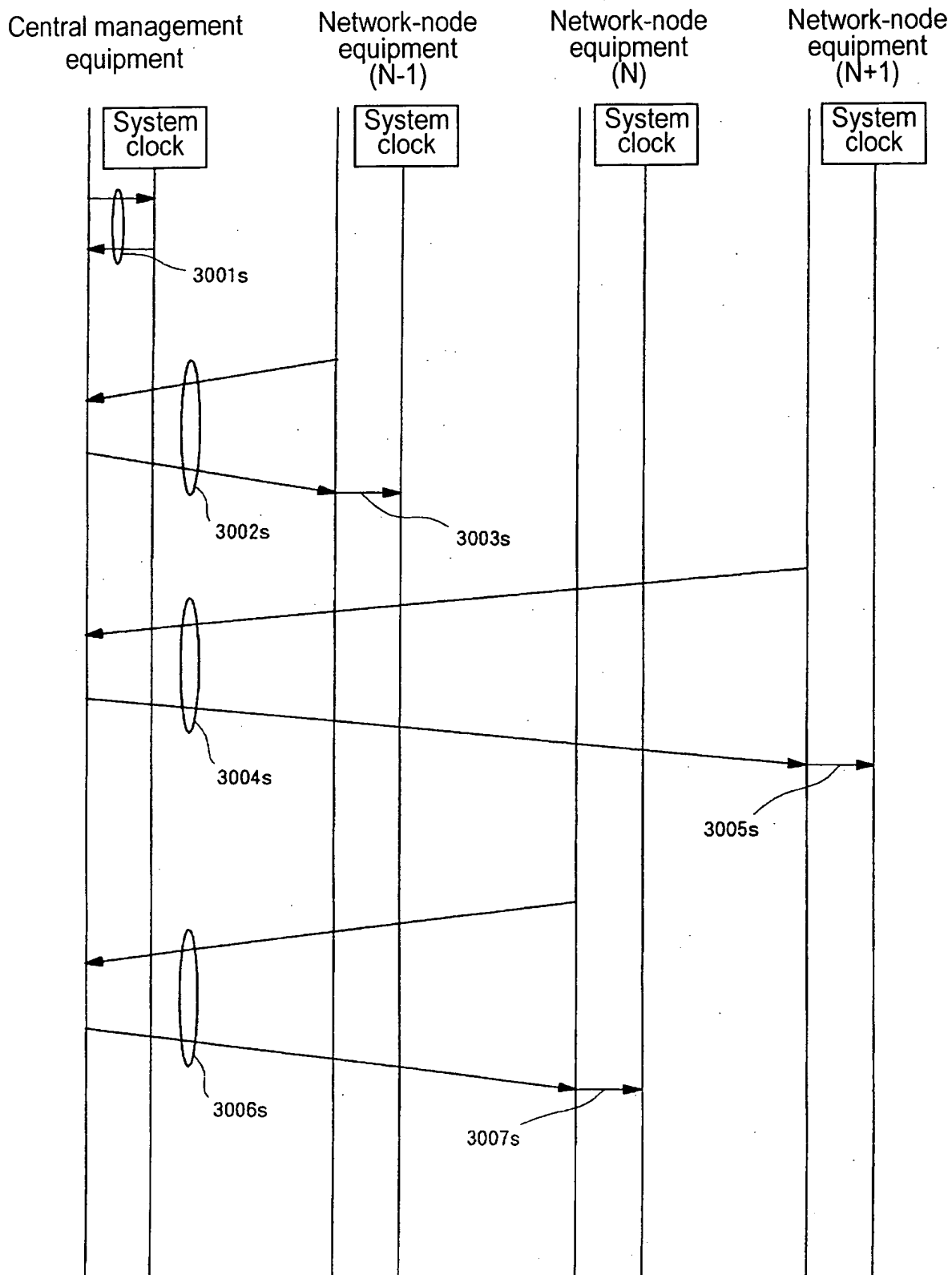


FIG. 4-2



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FIG. 4-3



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FIG. 4-4

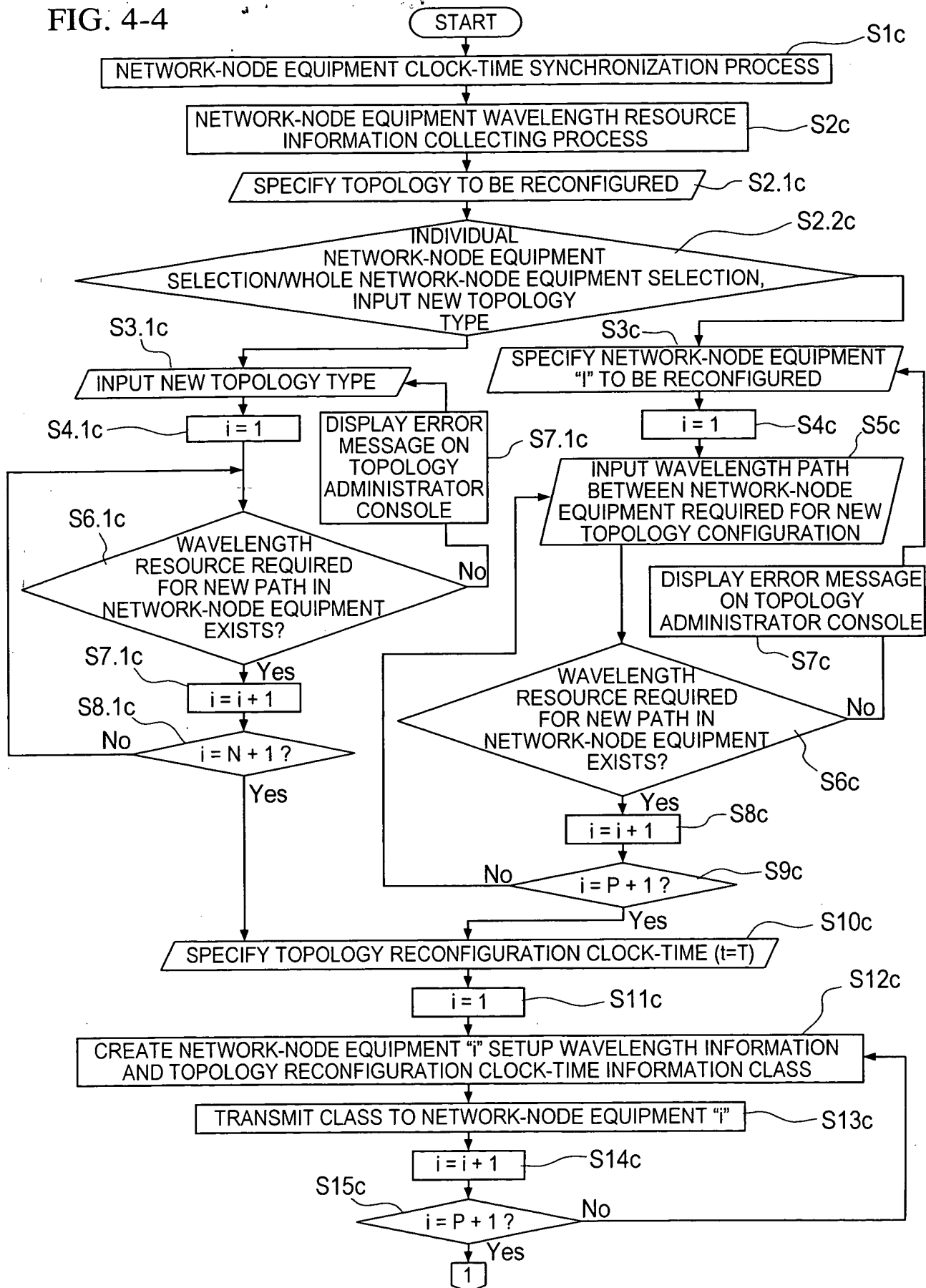


FIG. 4-5

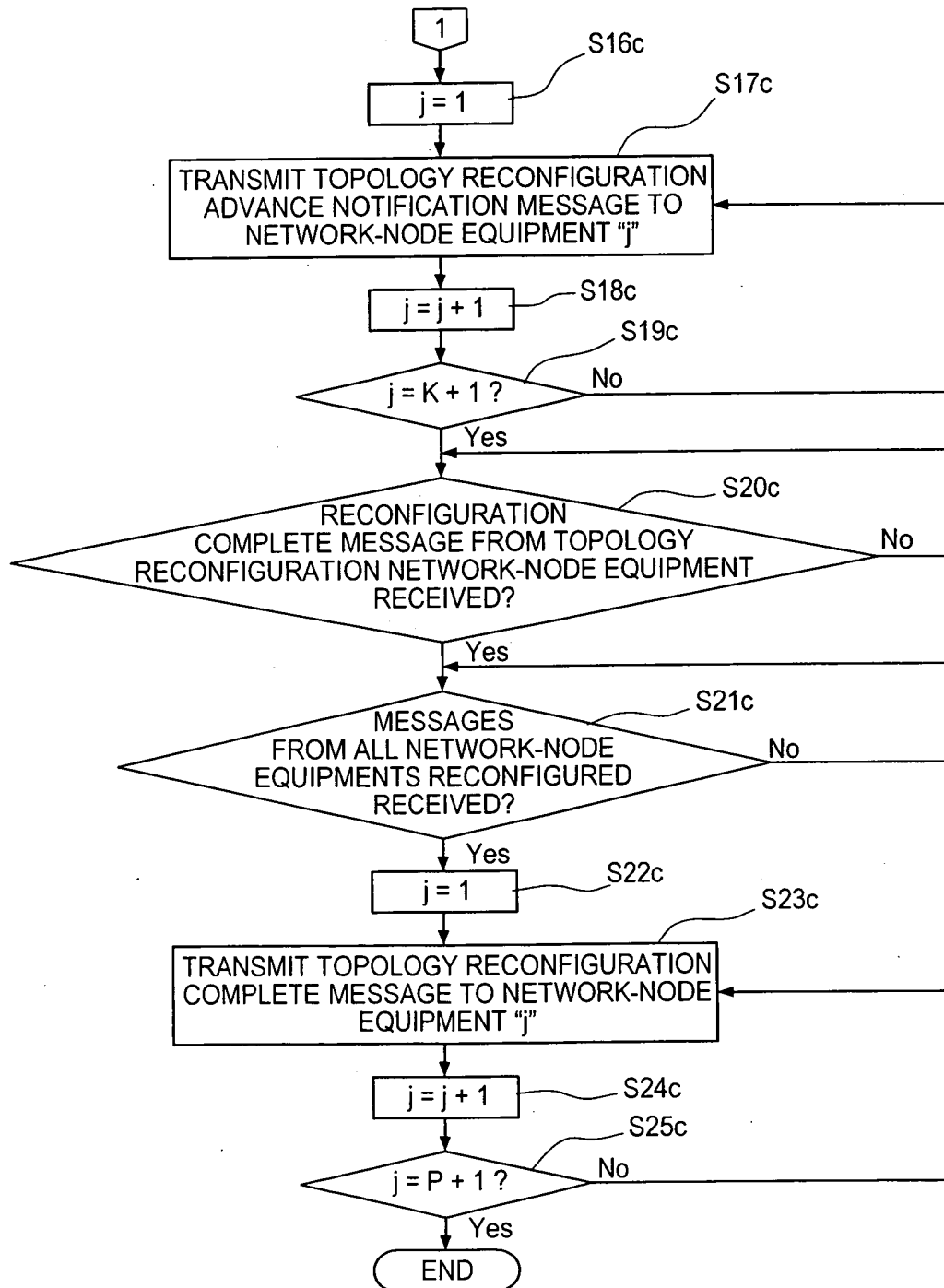


FIG. 4-6

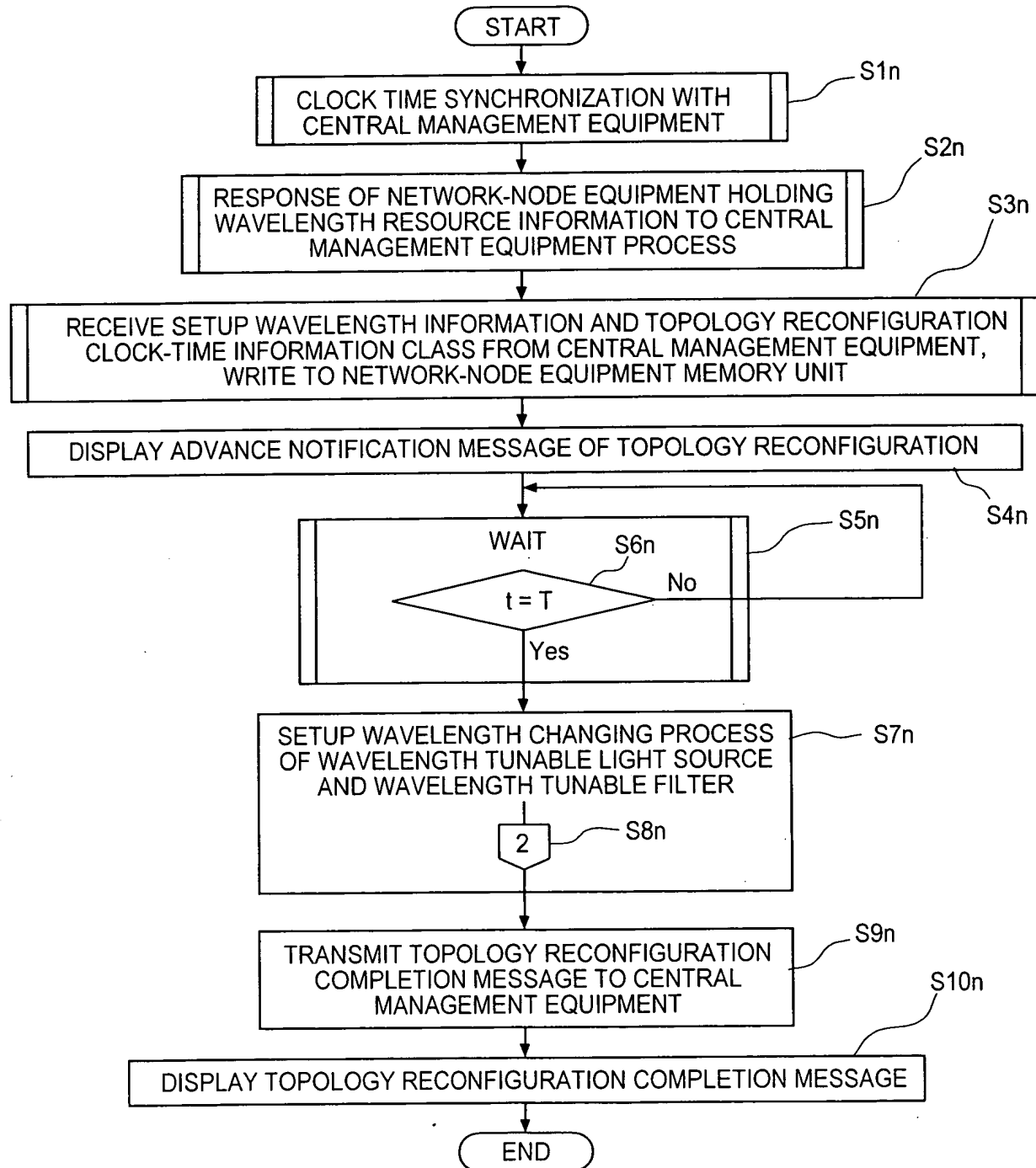


FIG. 4-7

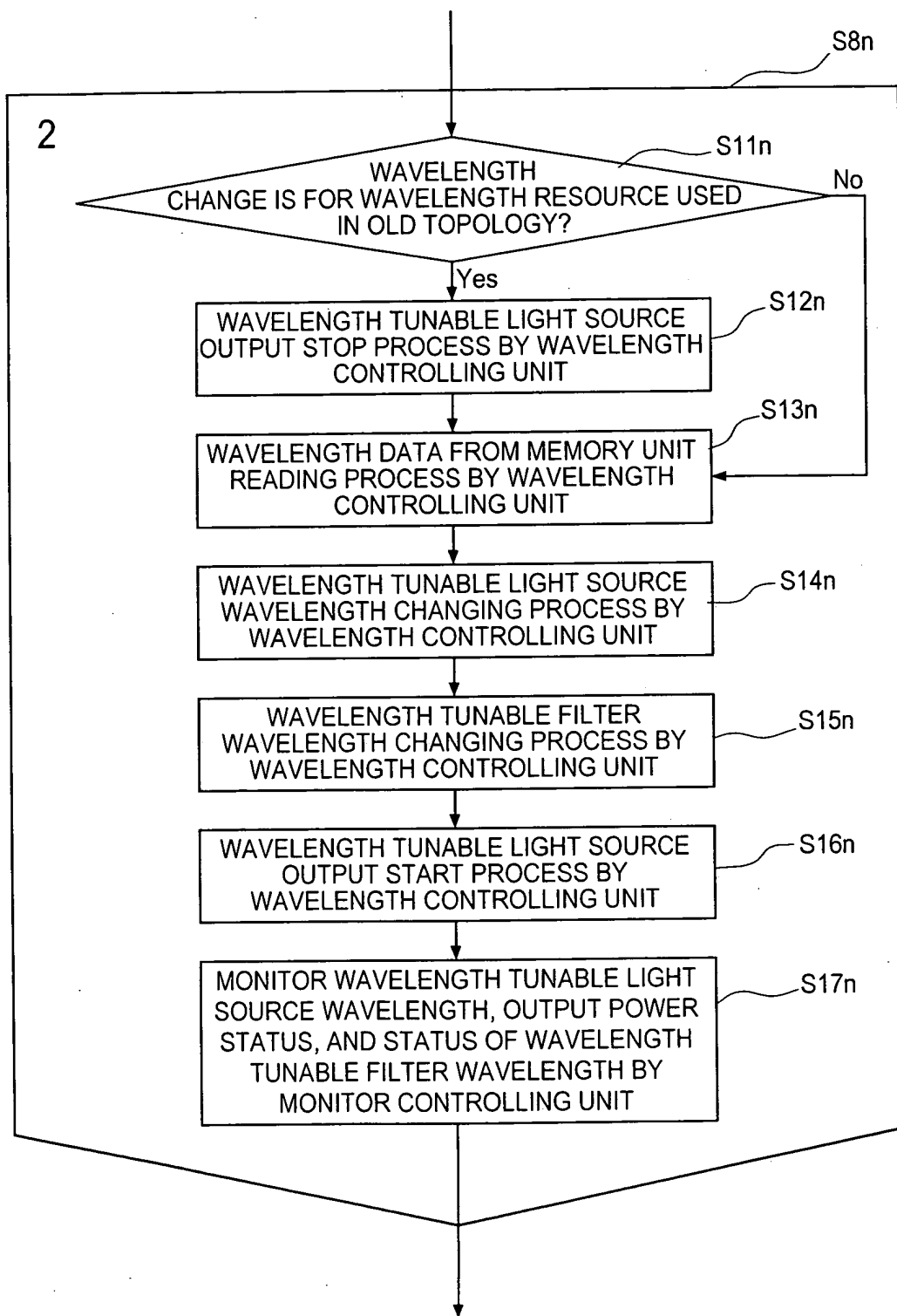




FIG. 4-8

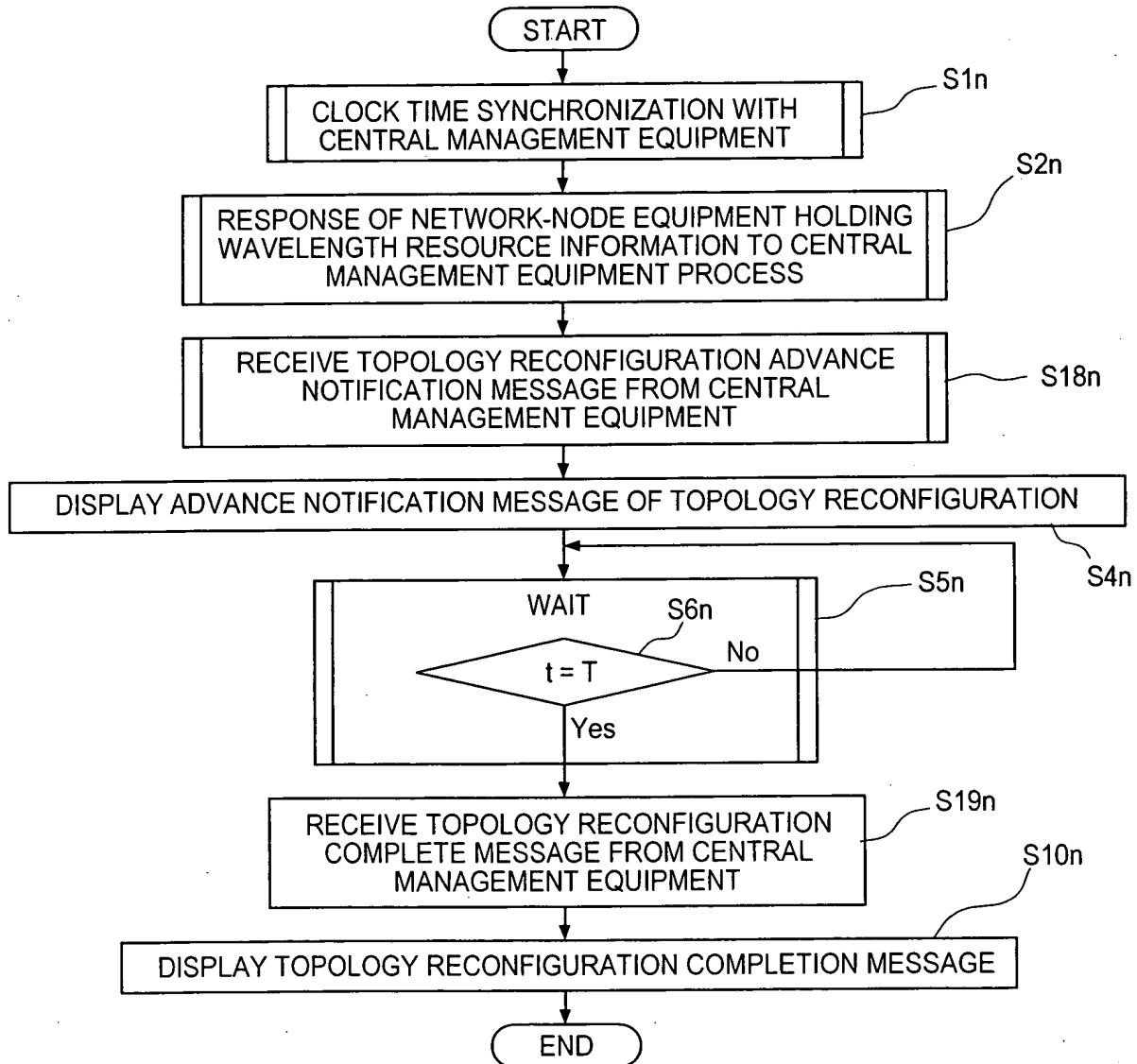
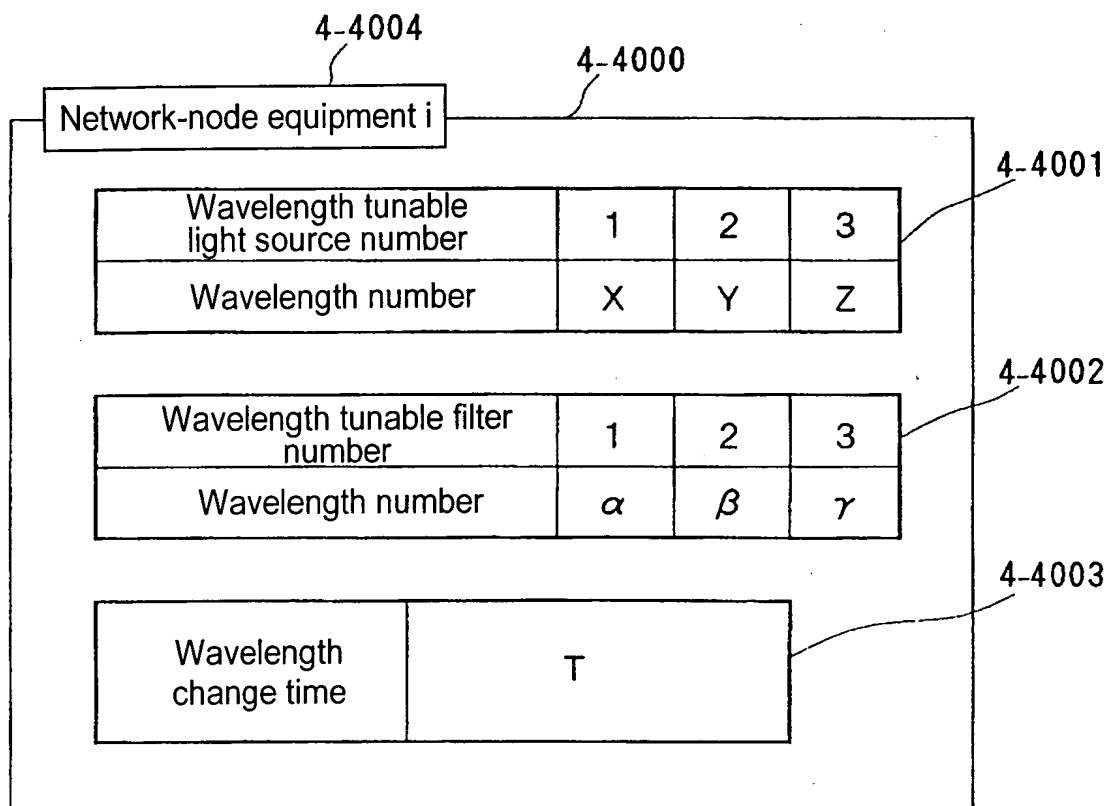


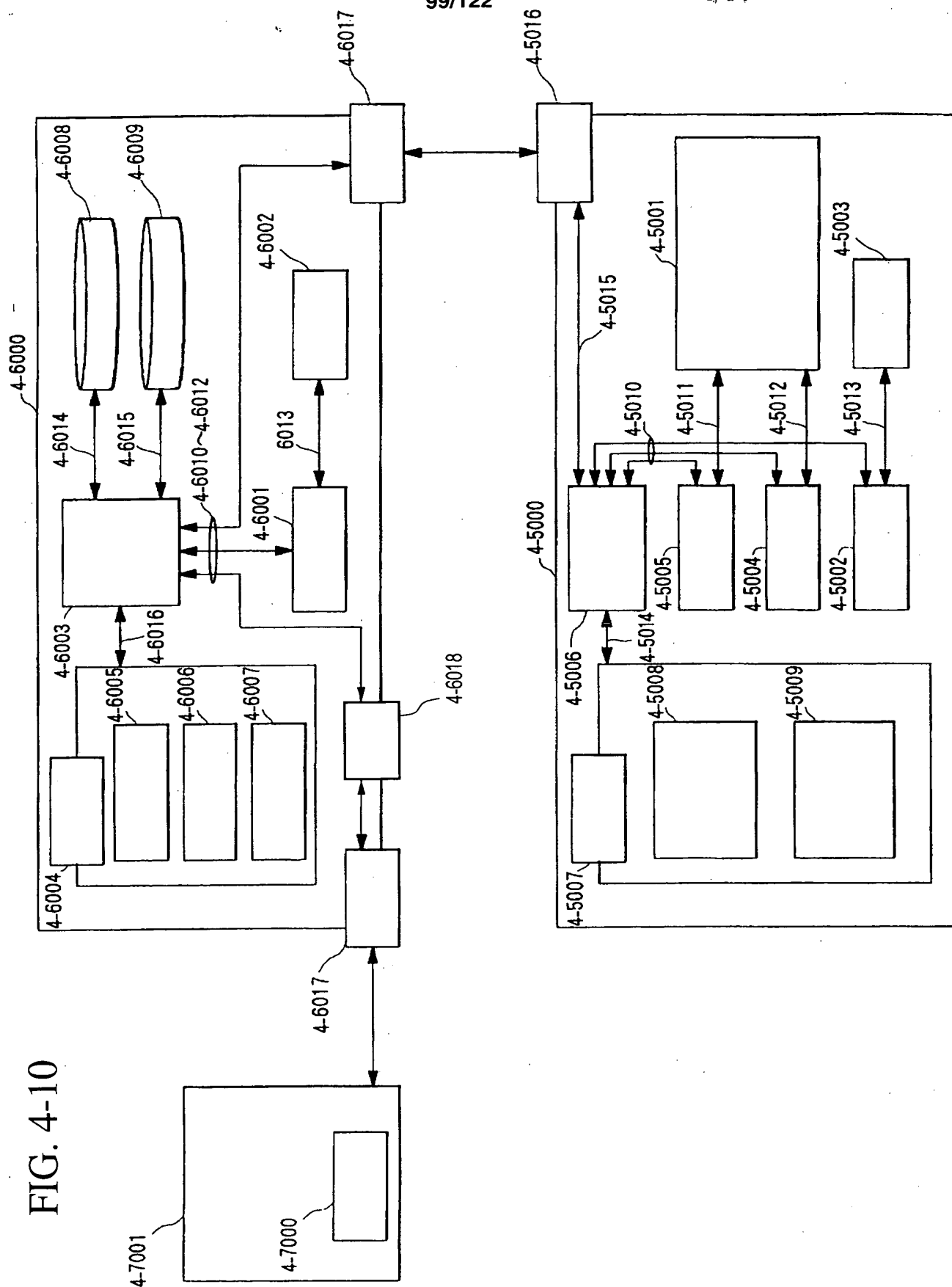
FIG. 4-9



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FIG. 4-10



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FIG. 4-11

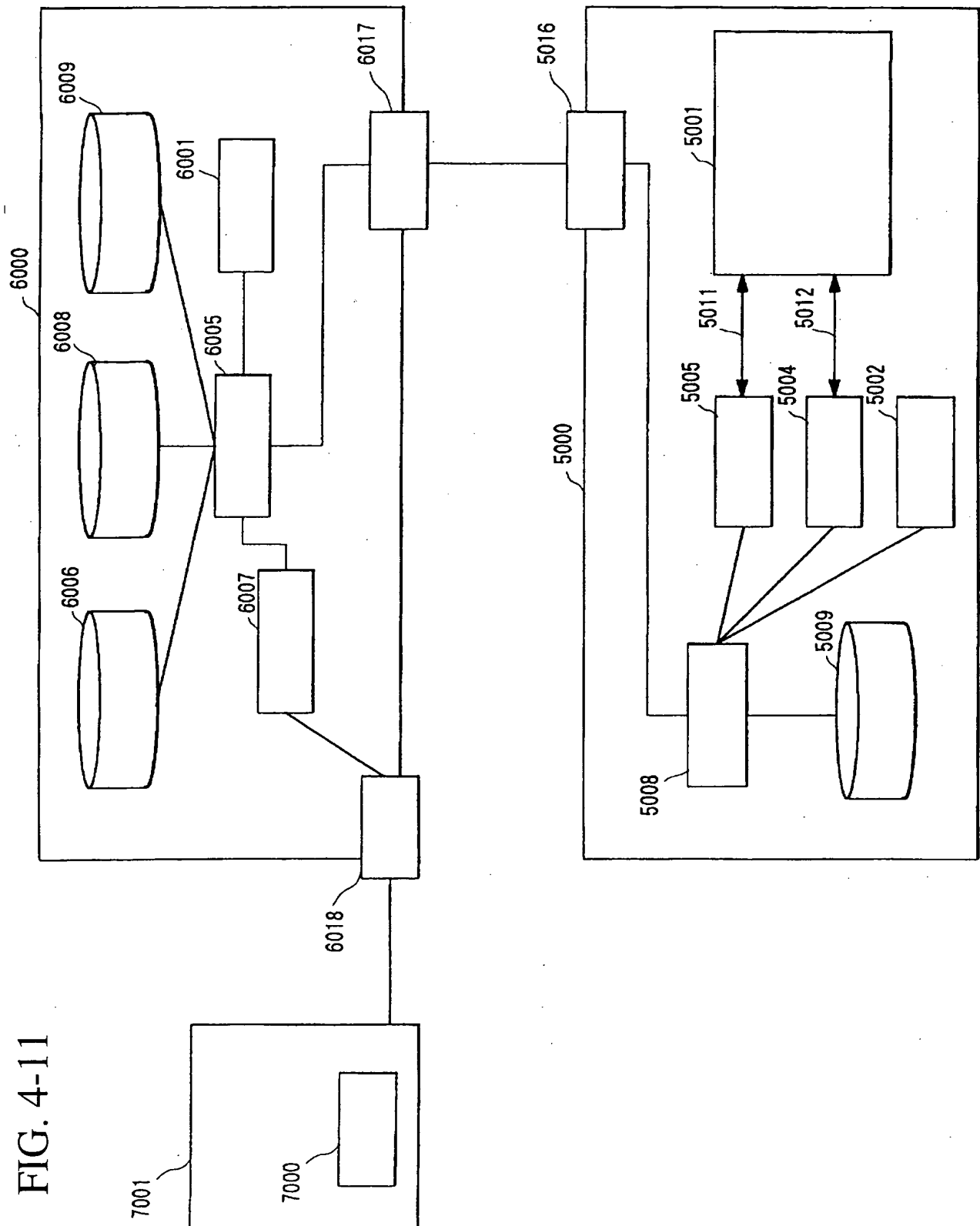


FIG. 4-12

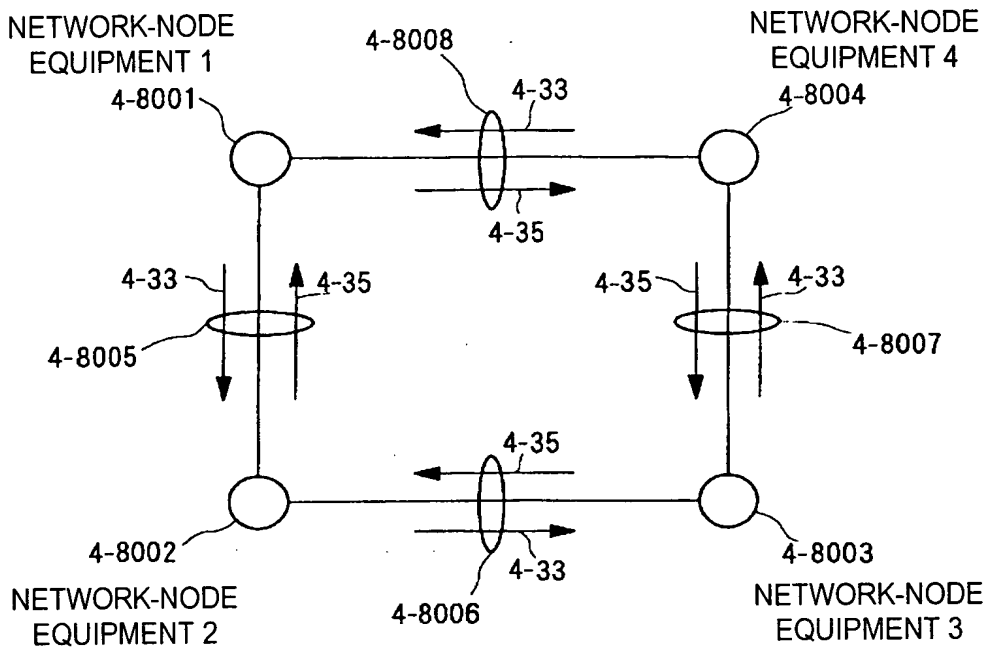


FIG. 4-13

4-9000

	1	2	3	4
1	3 2	3 3 (4-9001)	3 4	3 5 (4-9002)
2	3 5 (4-9003)	3 2	3 3 (4-9004)	3 4
3	3 4	3 5 (4-9005)	3 2	3 3 (4-9006)
4	3 3 (4-9007)	3 4	3 5 (4-9008)	3 2

FIG. 4-14

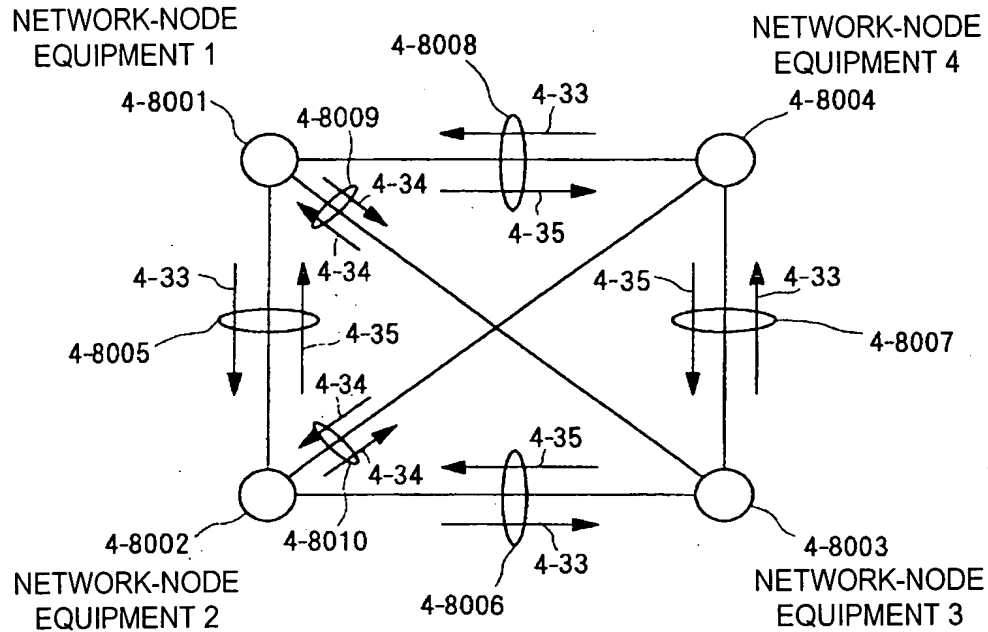


FIG. 4-15

4-9000

	1	2	3	4
1	3 2	3 3 (4-9001)	3 4 (4-9009)	3 5 (4-9002)
2	3 5 (4-9003)	3 2	3 3 (4-9004)	3 4 (4-9010)
3	3 4 (4-9011)	3 5 (4-9005)	3 2	3 3 (4-9006)
4	3 3 (4-9007)	3 4 (4-9012)	3 5 (4-9008)	3 2

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FIG. 4-16

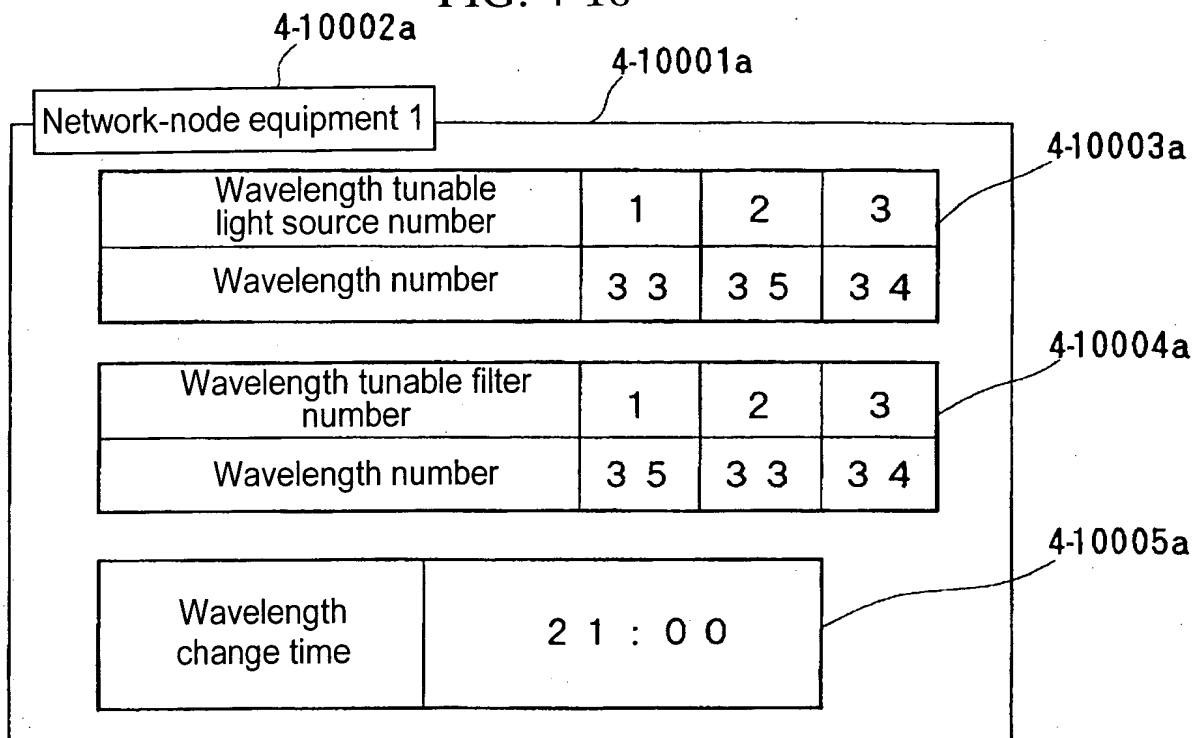


FIG. 4-17

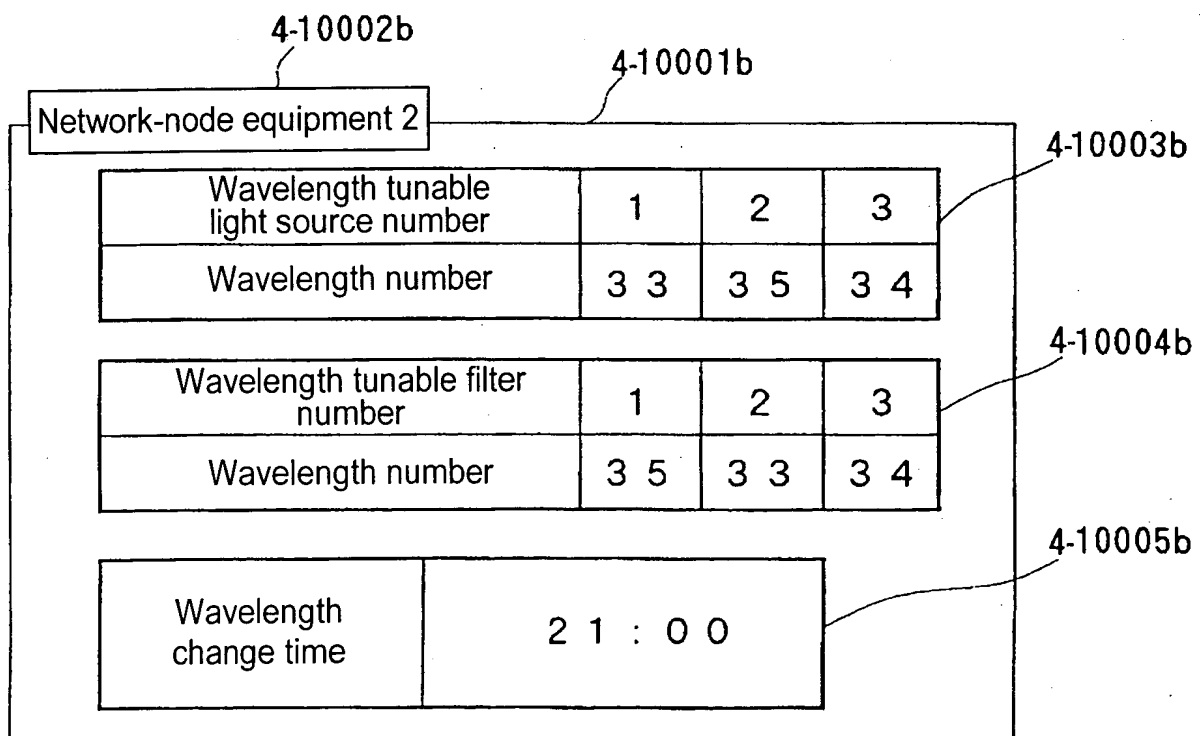


FIG. 4-18

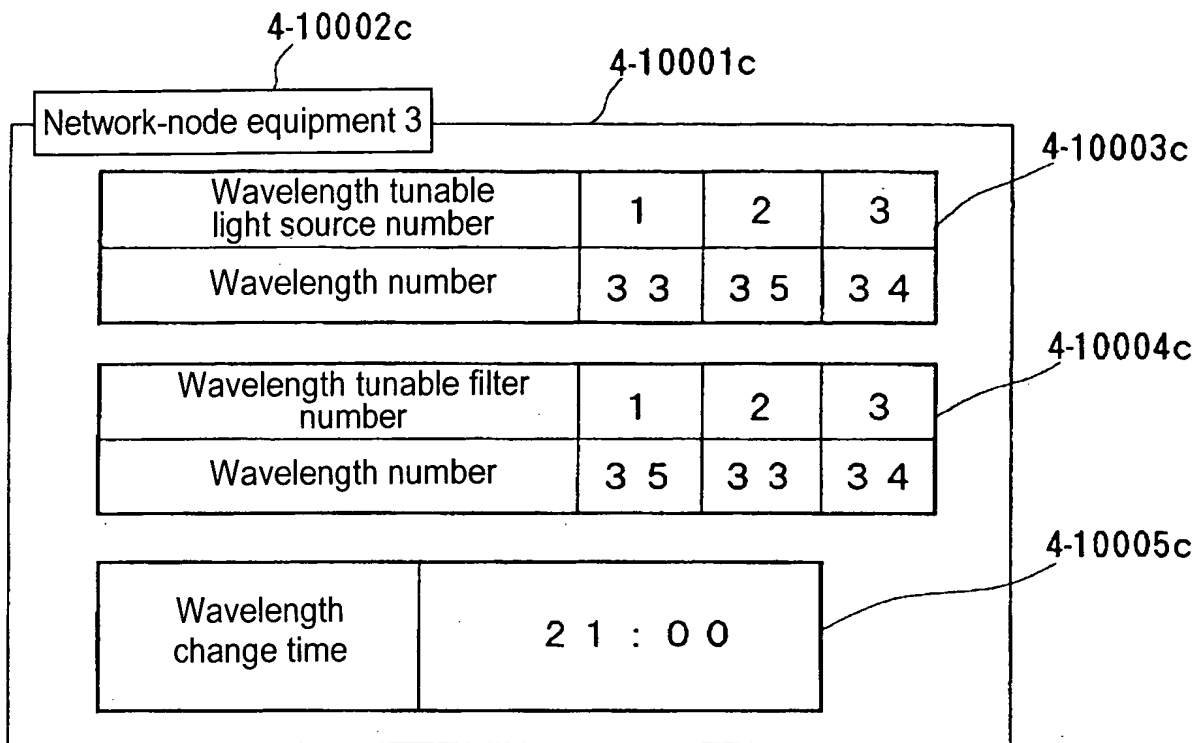


FIG. 4-19

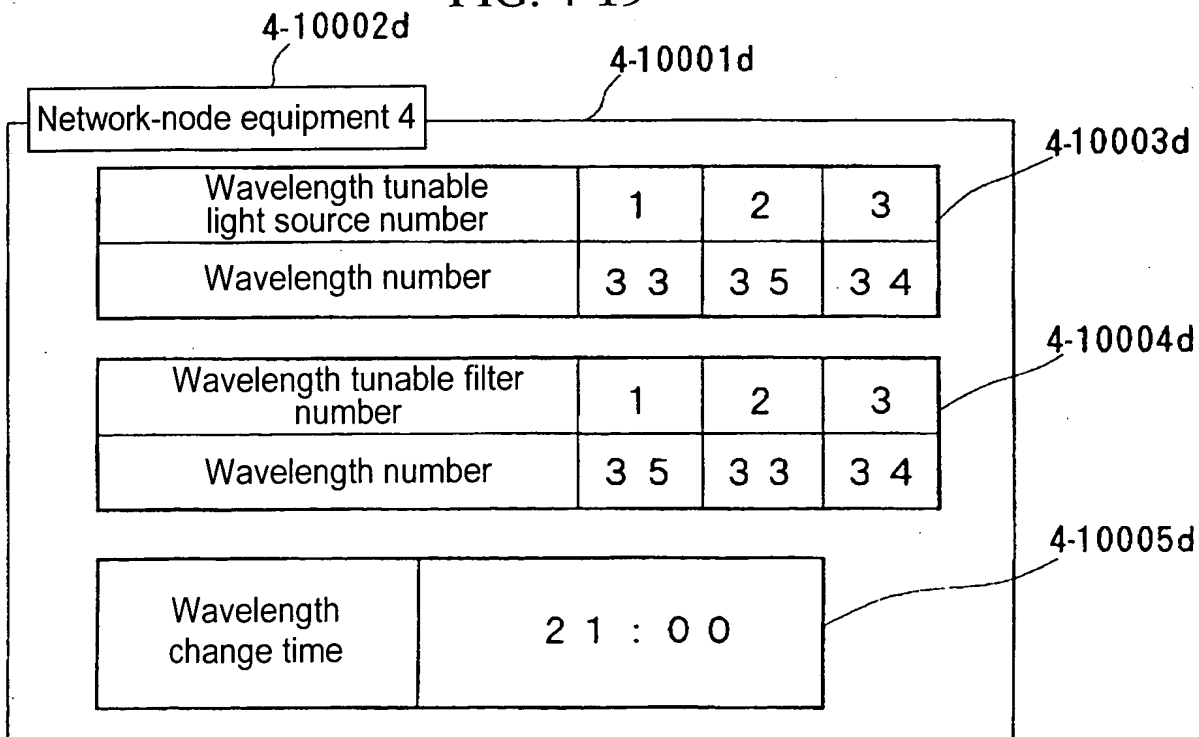
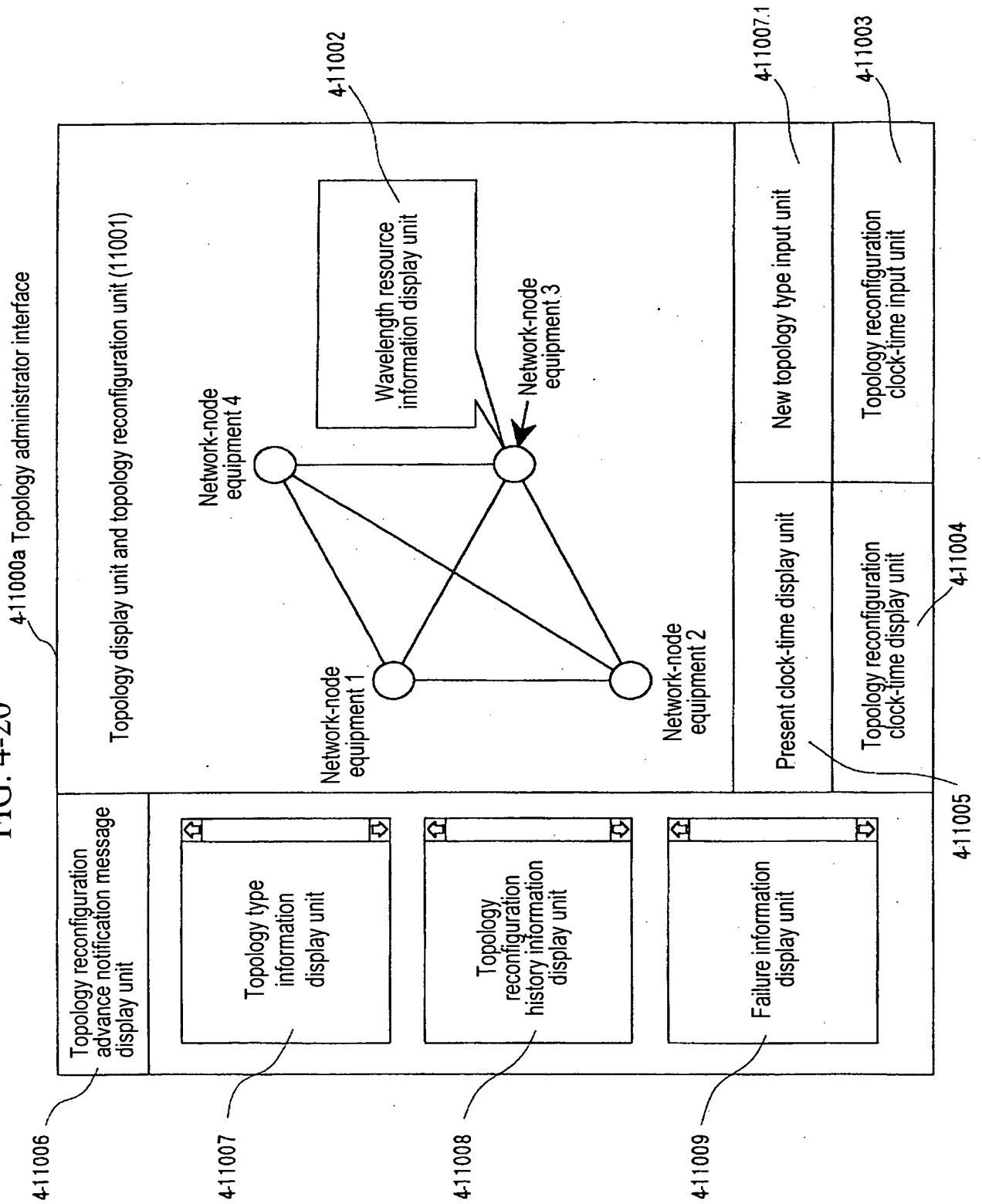




FIG. 4-20



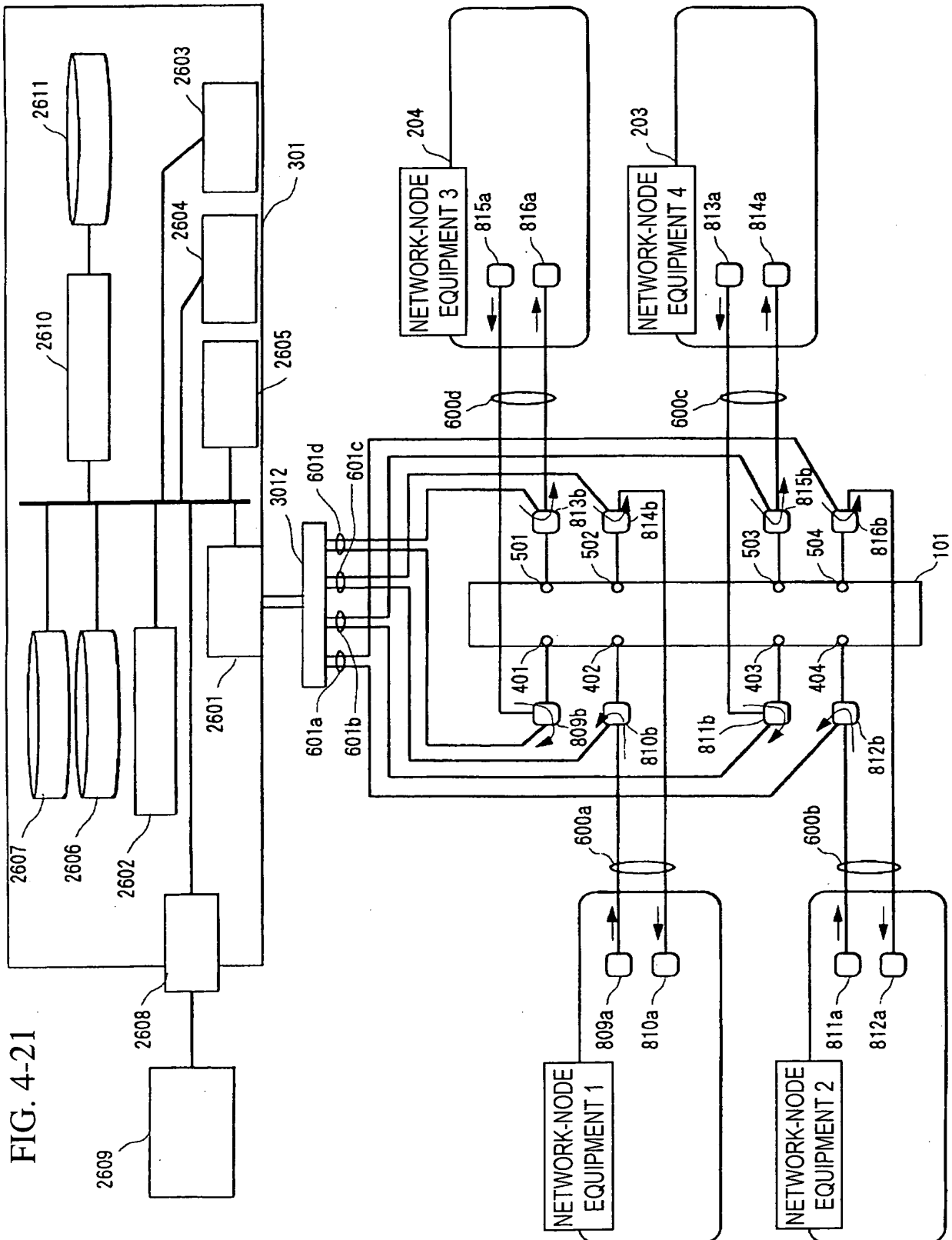


FIG. 4-22

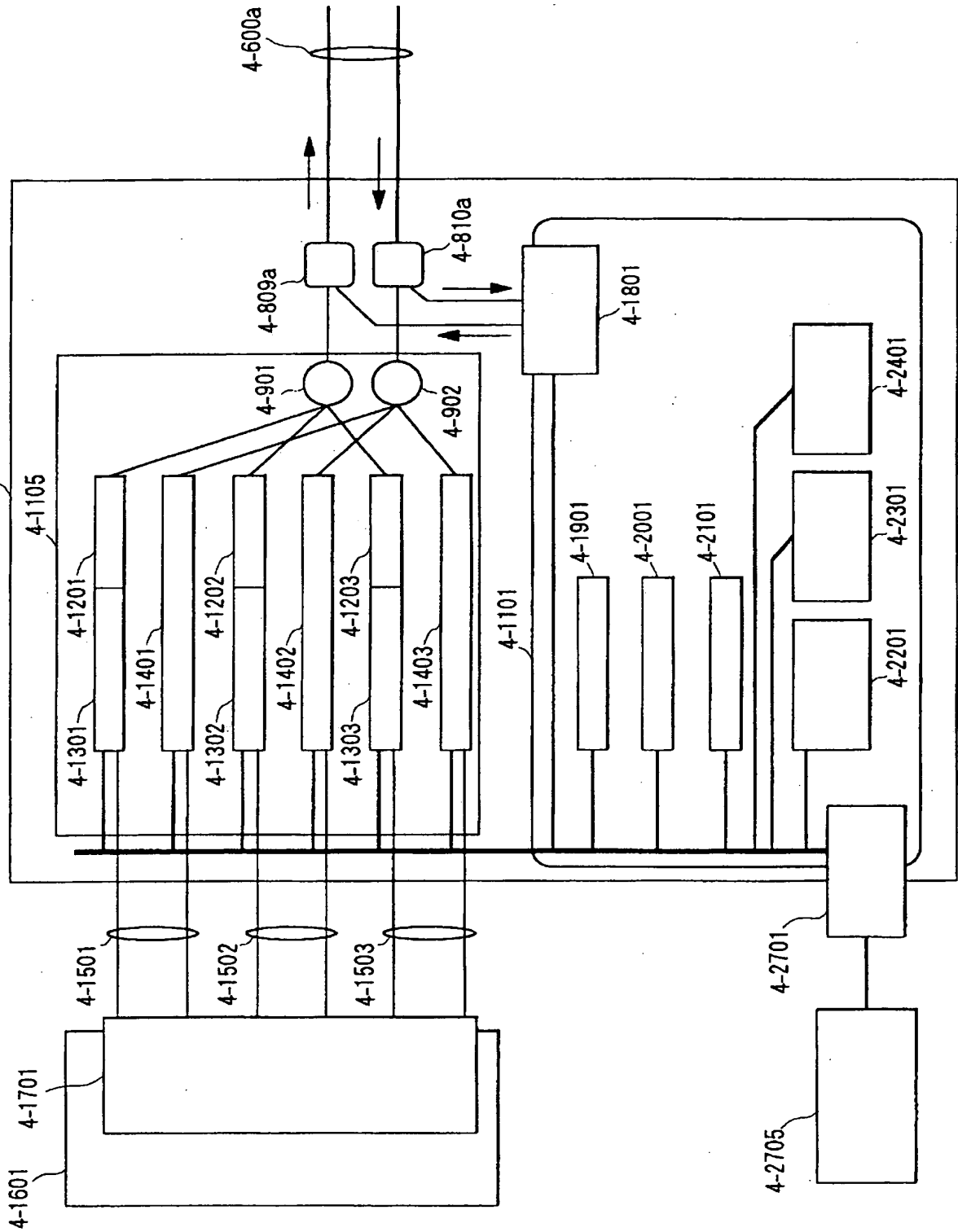


FIG. 4-23

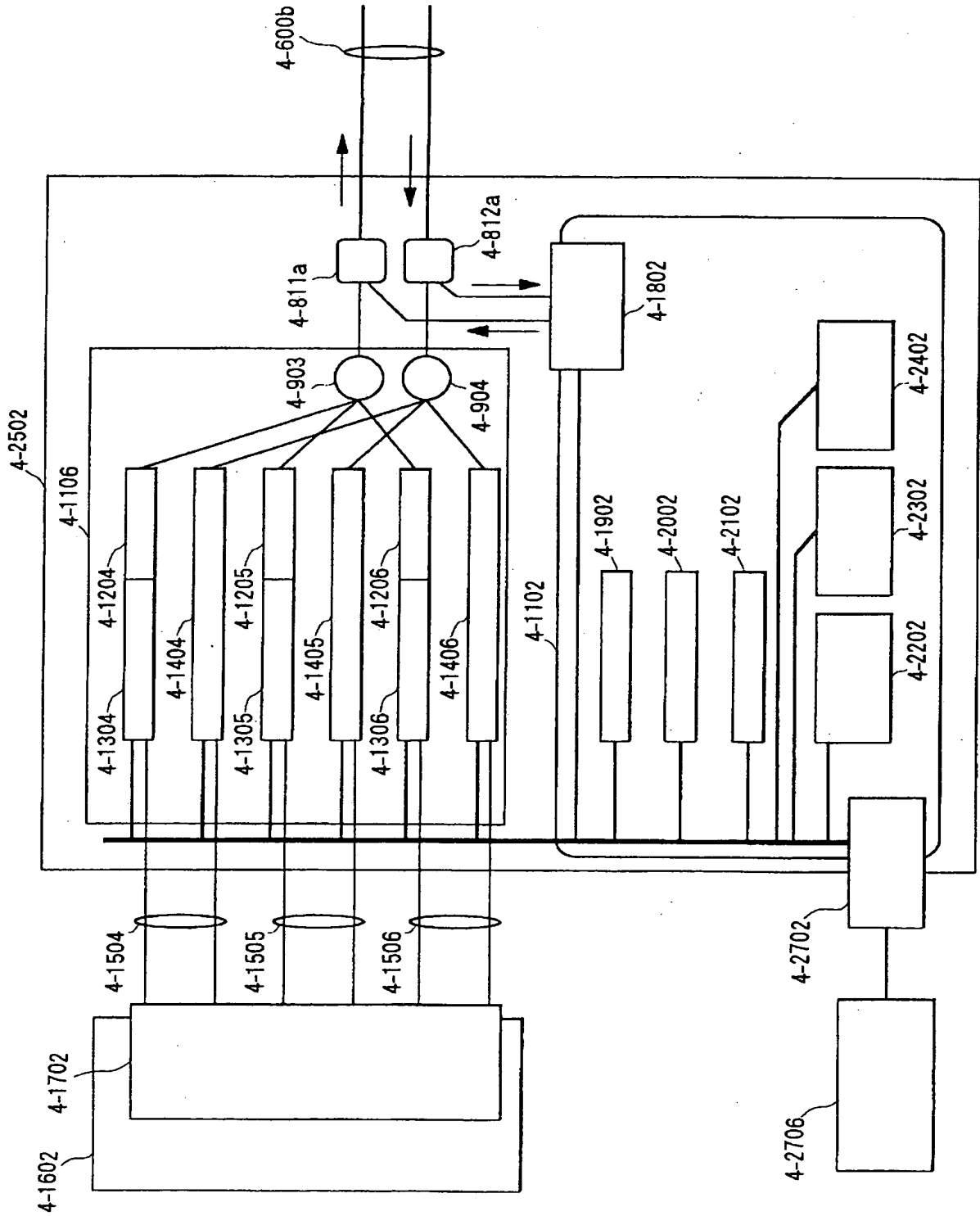


FIG. 4-24

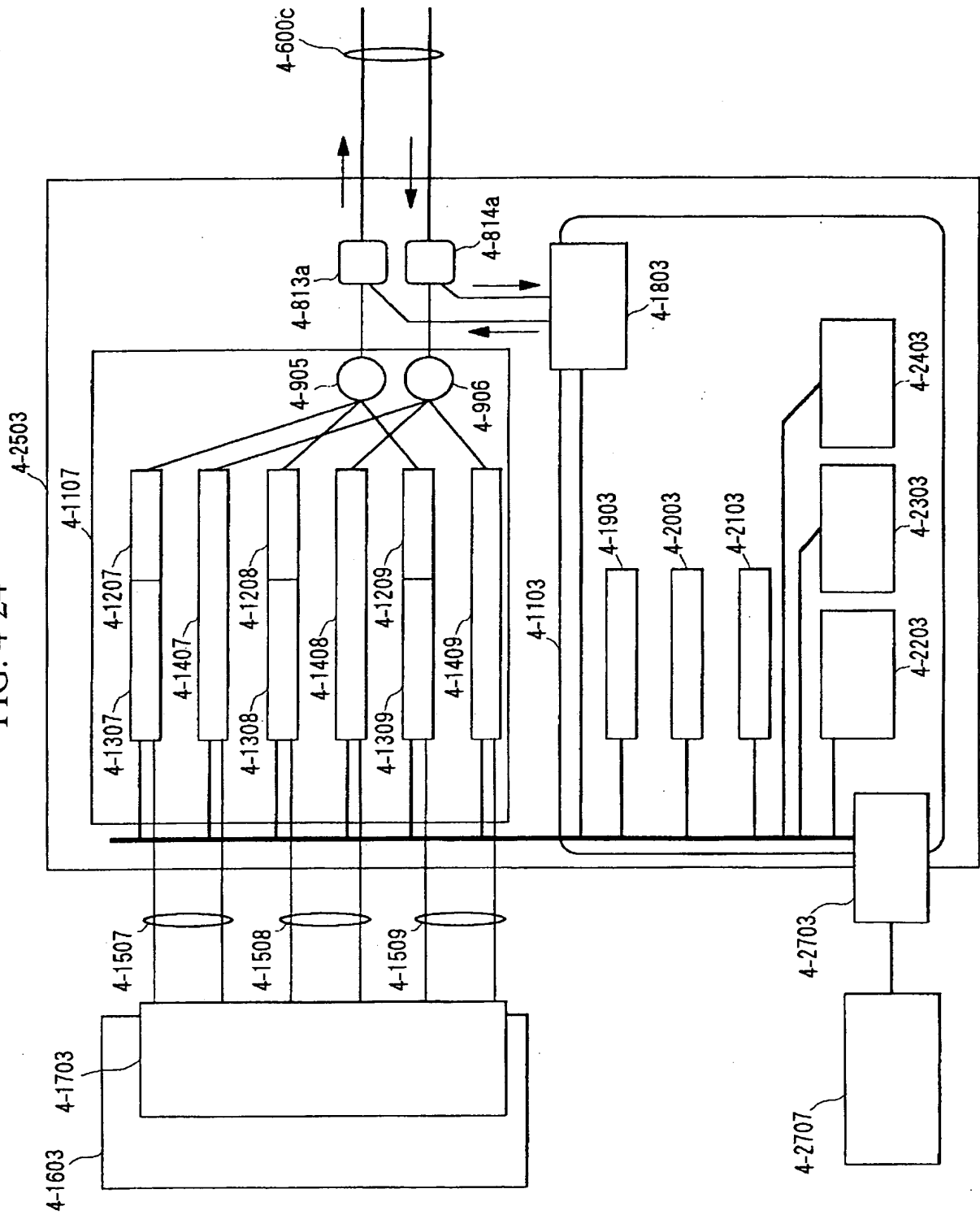
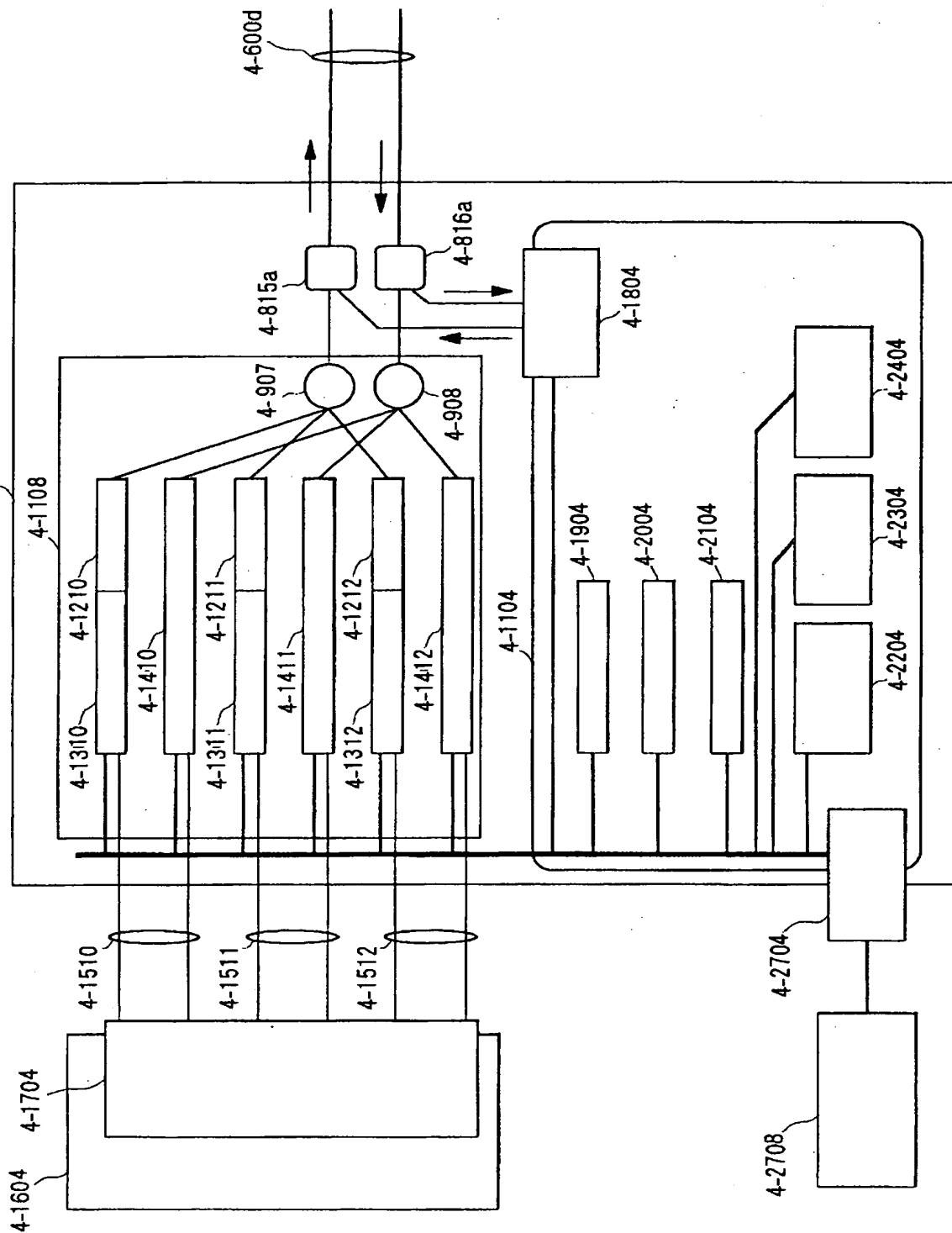


FIG. 4-25



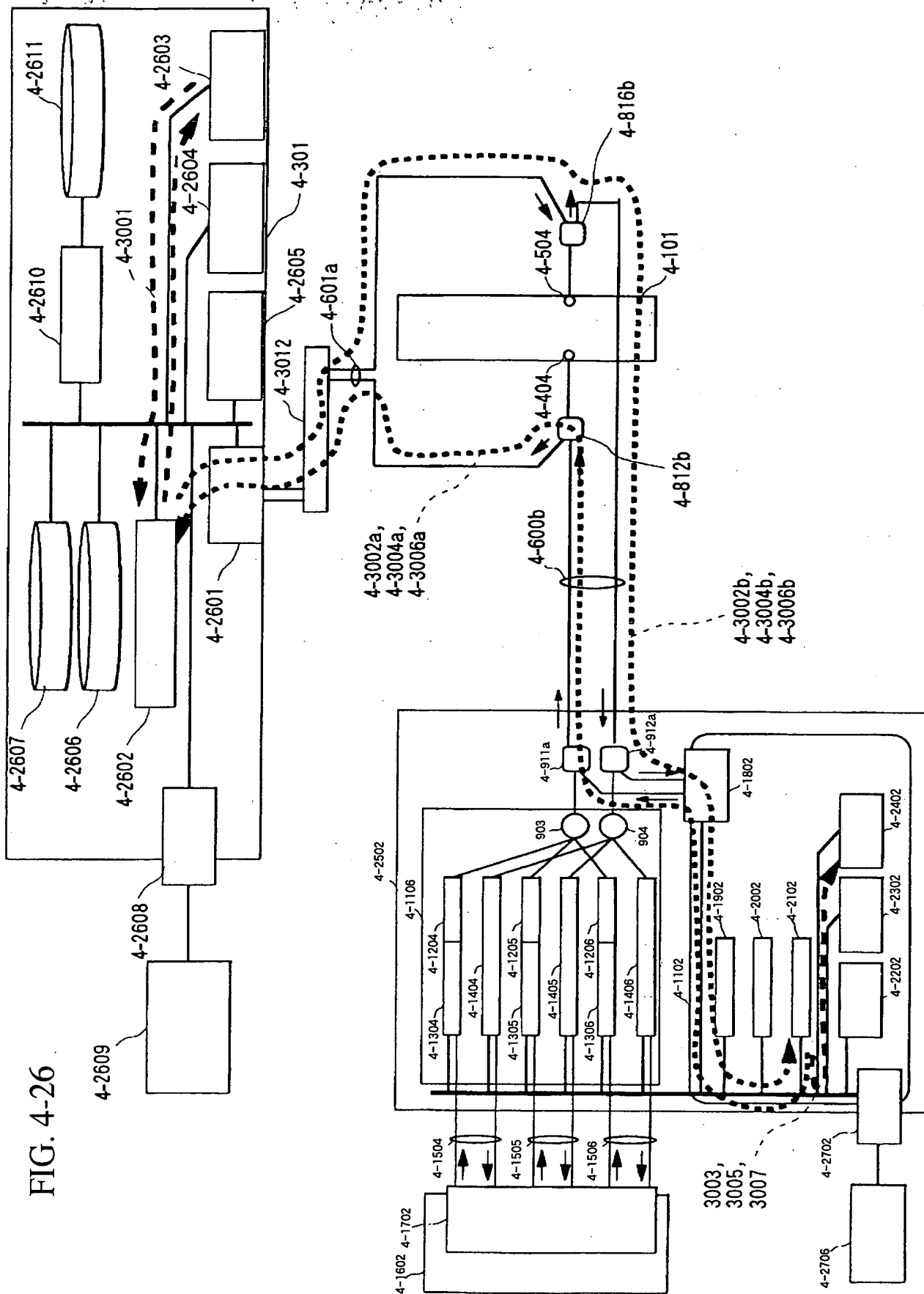
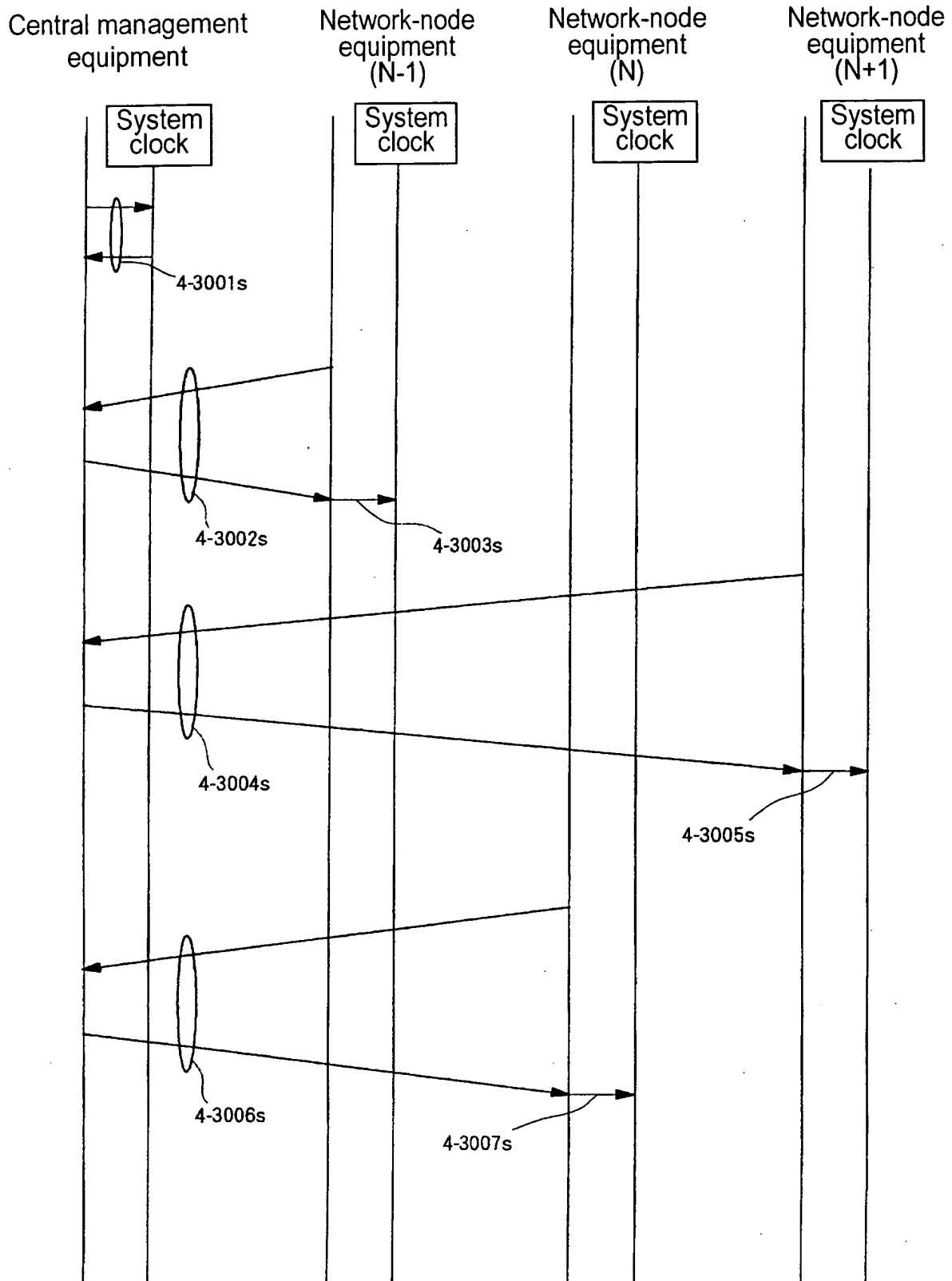


FIG. 4-27





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FIG. 4-28

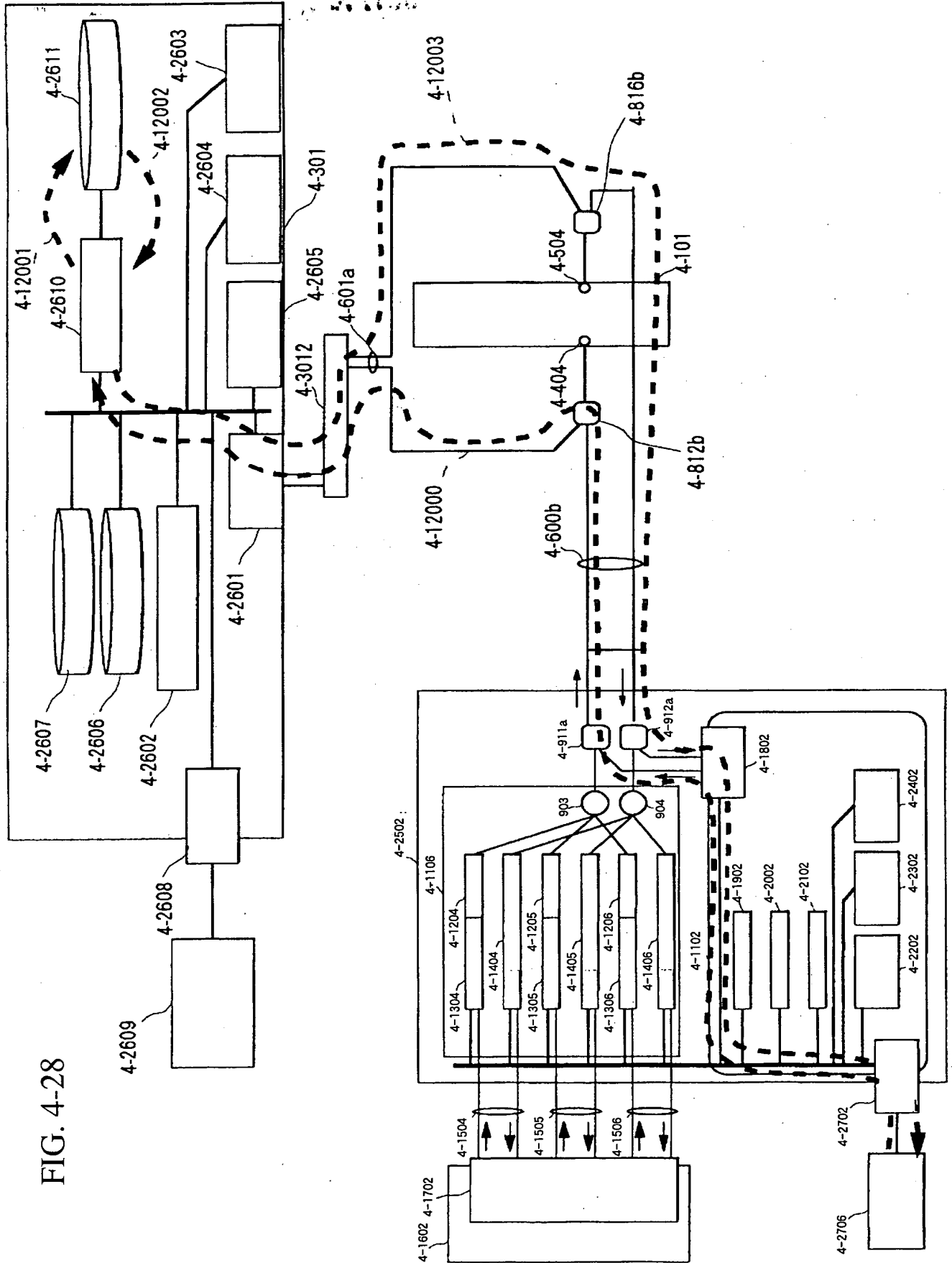


FIG. 4-29

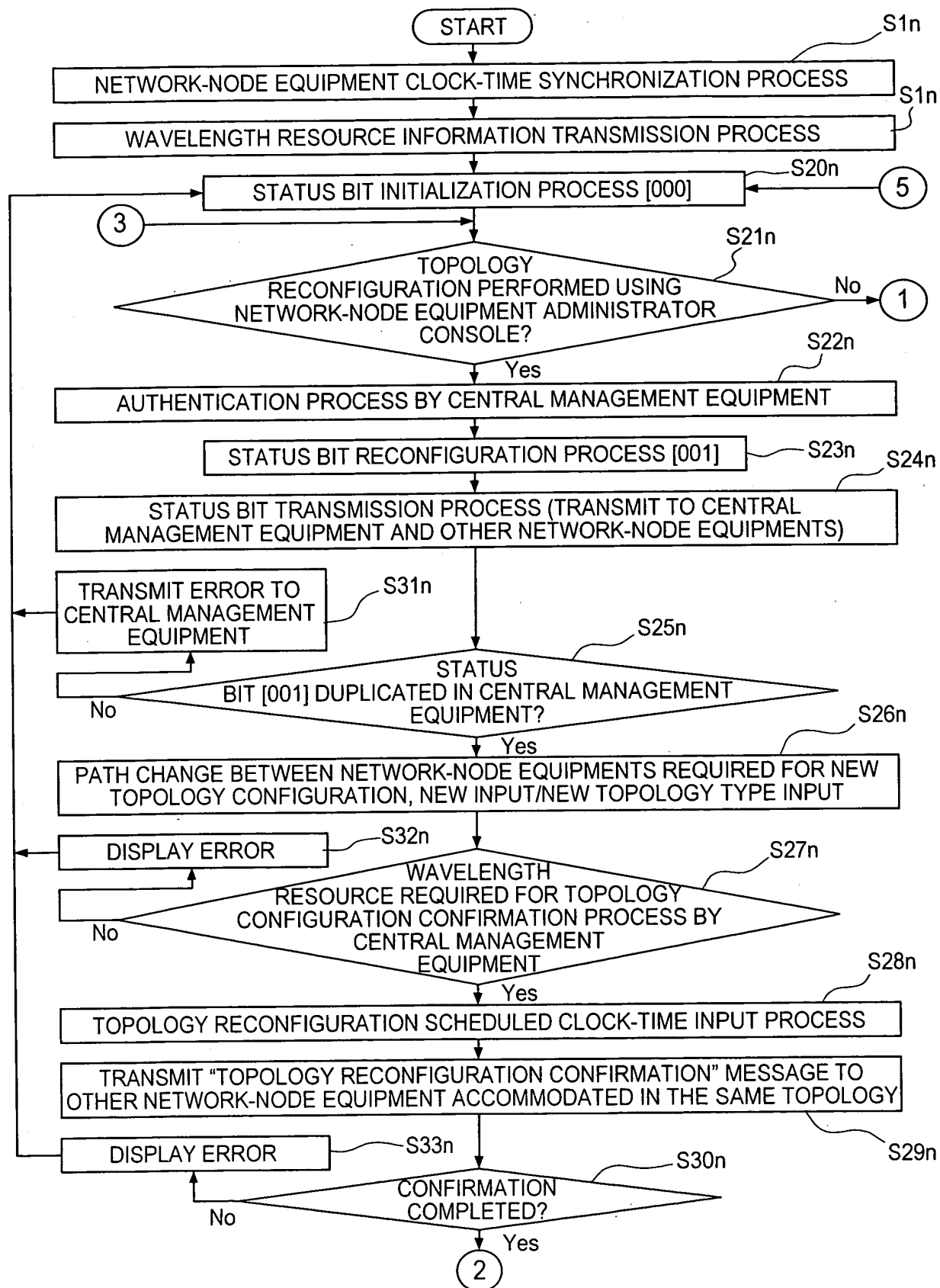


FIG. 4-30

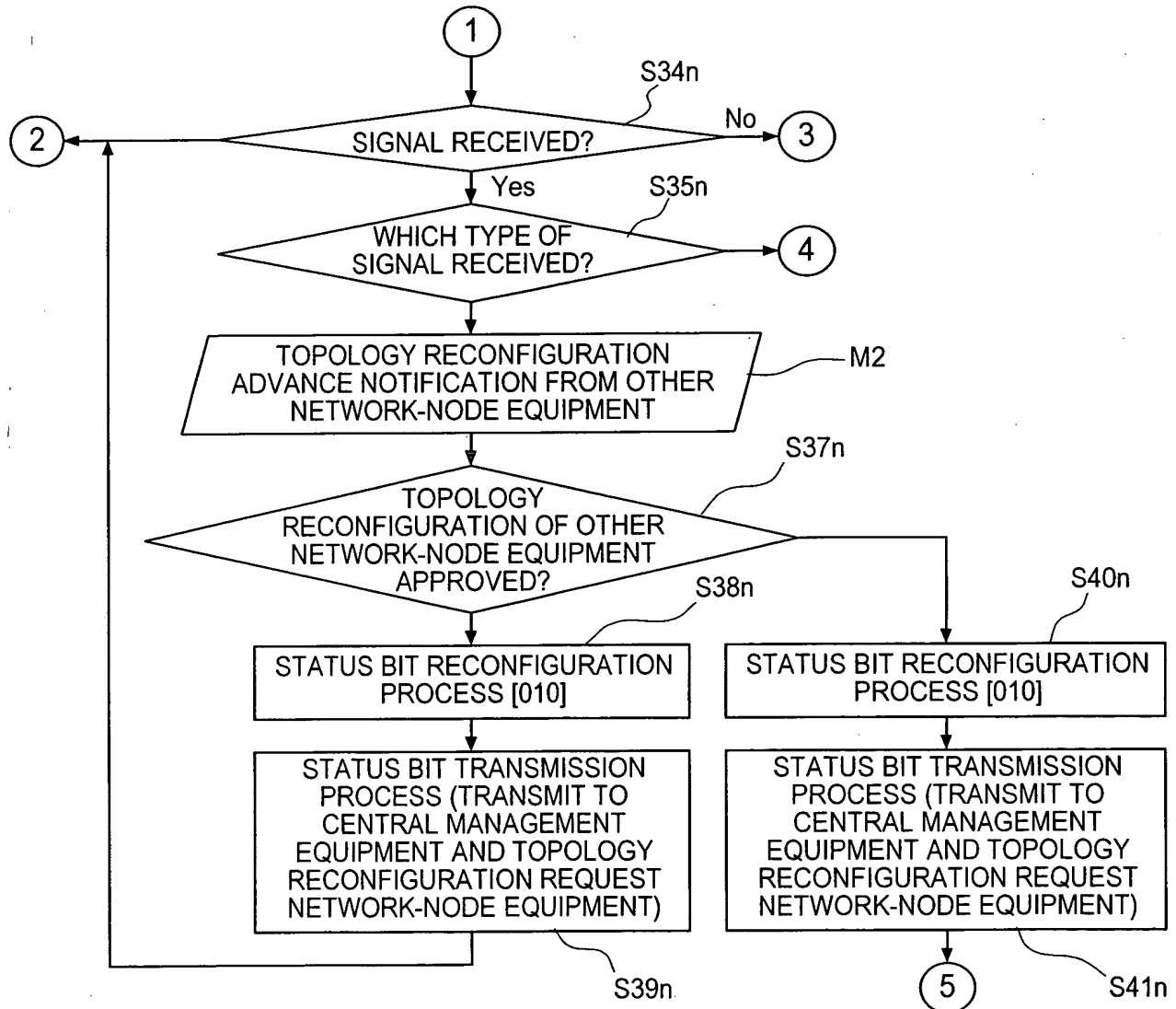
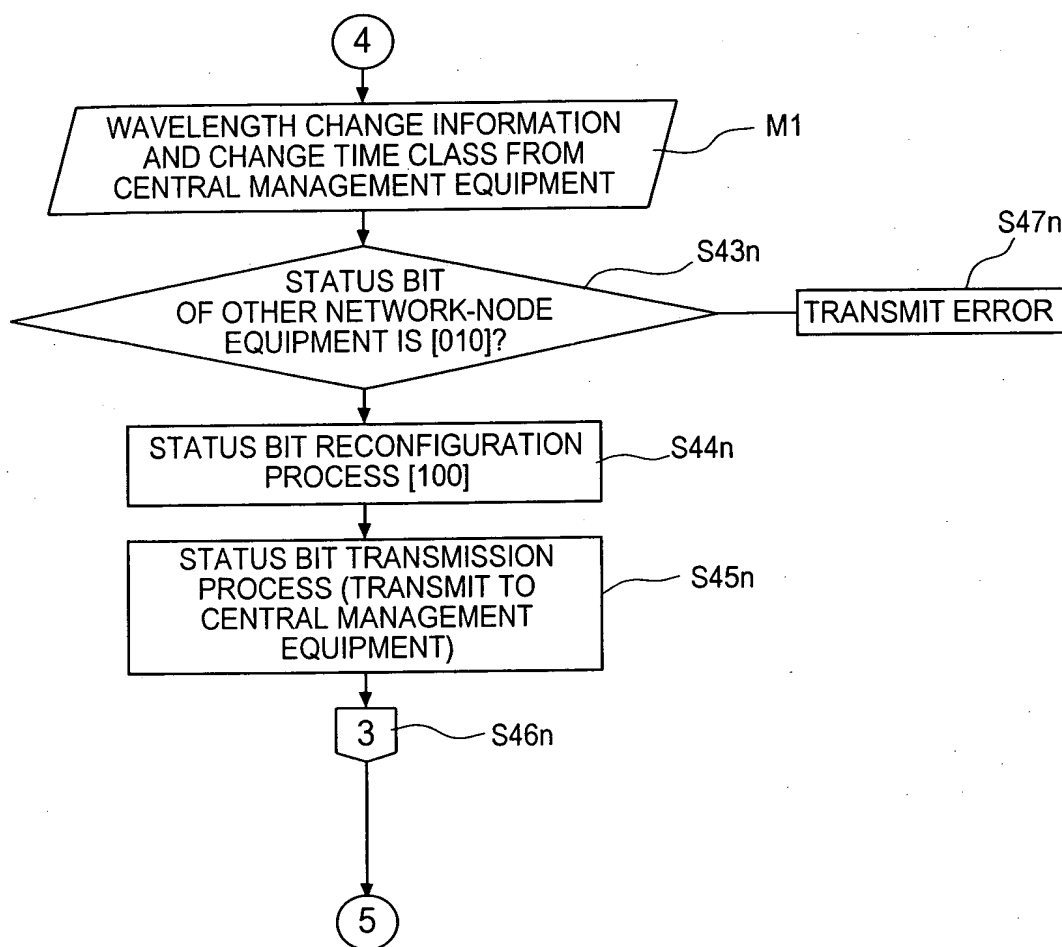


FIG. 4-31



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FIG. 4-32

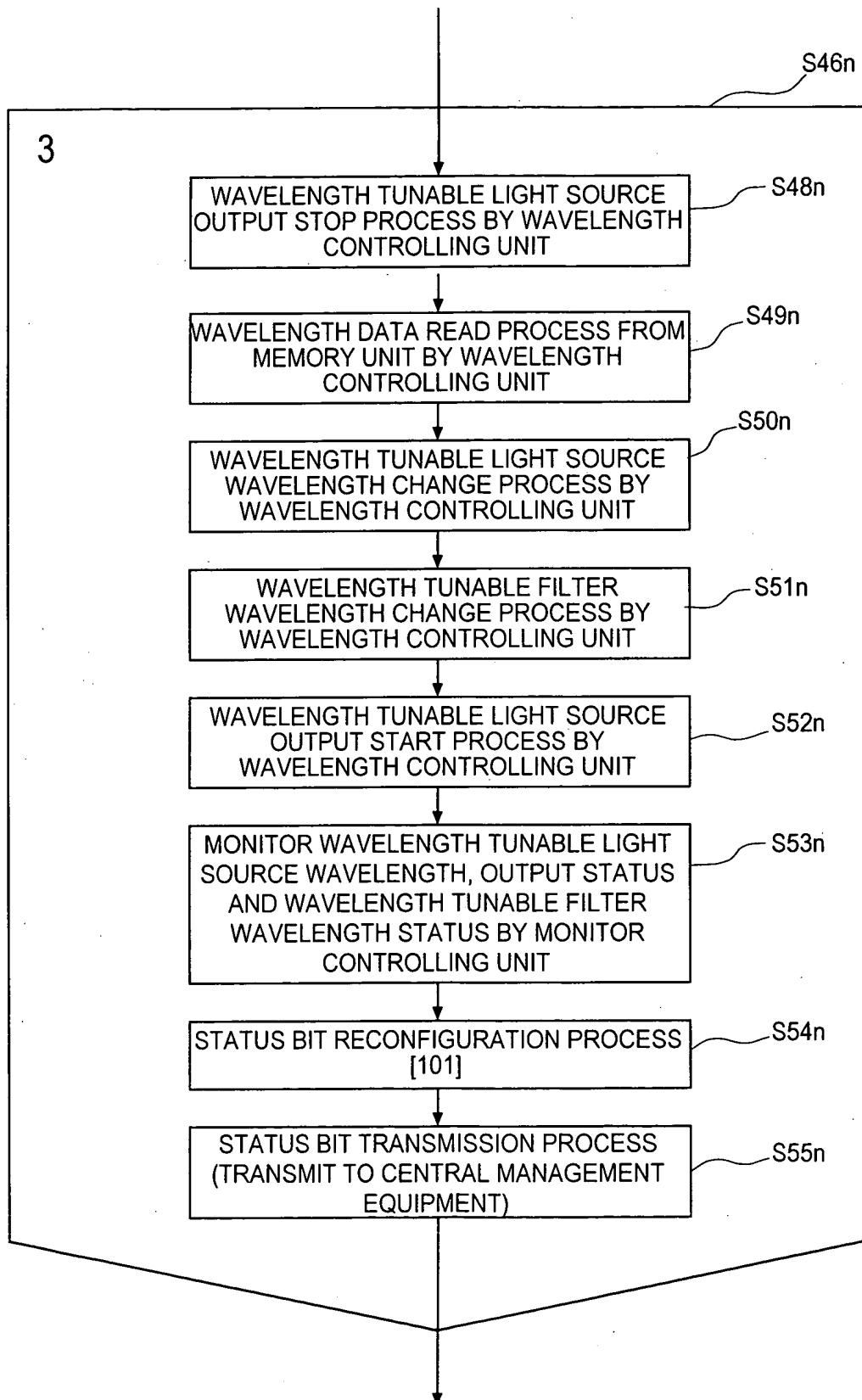


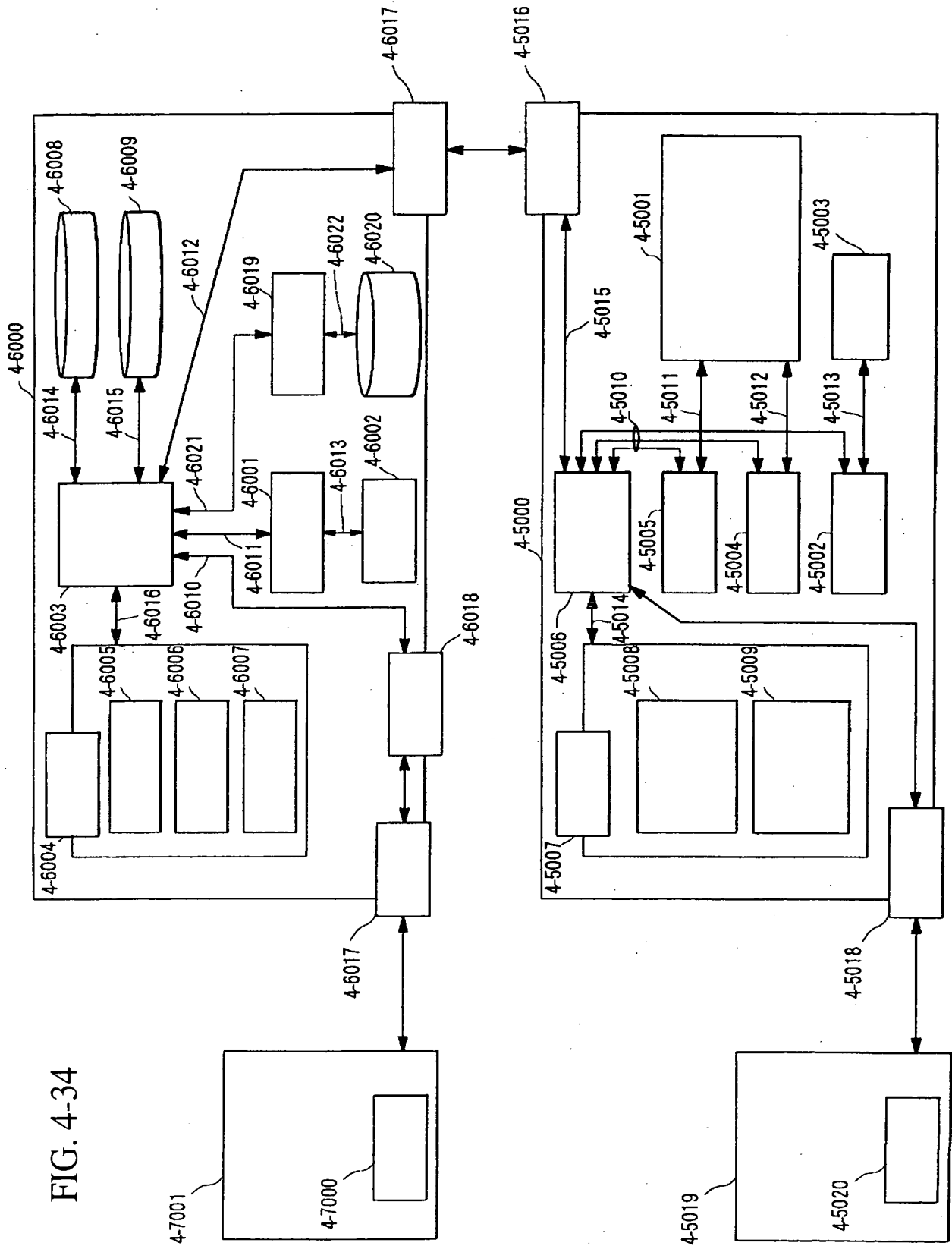
FIG. 4-33

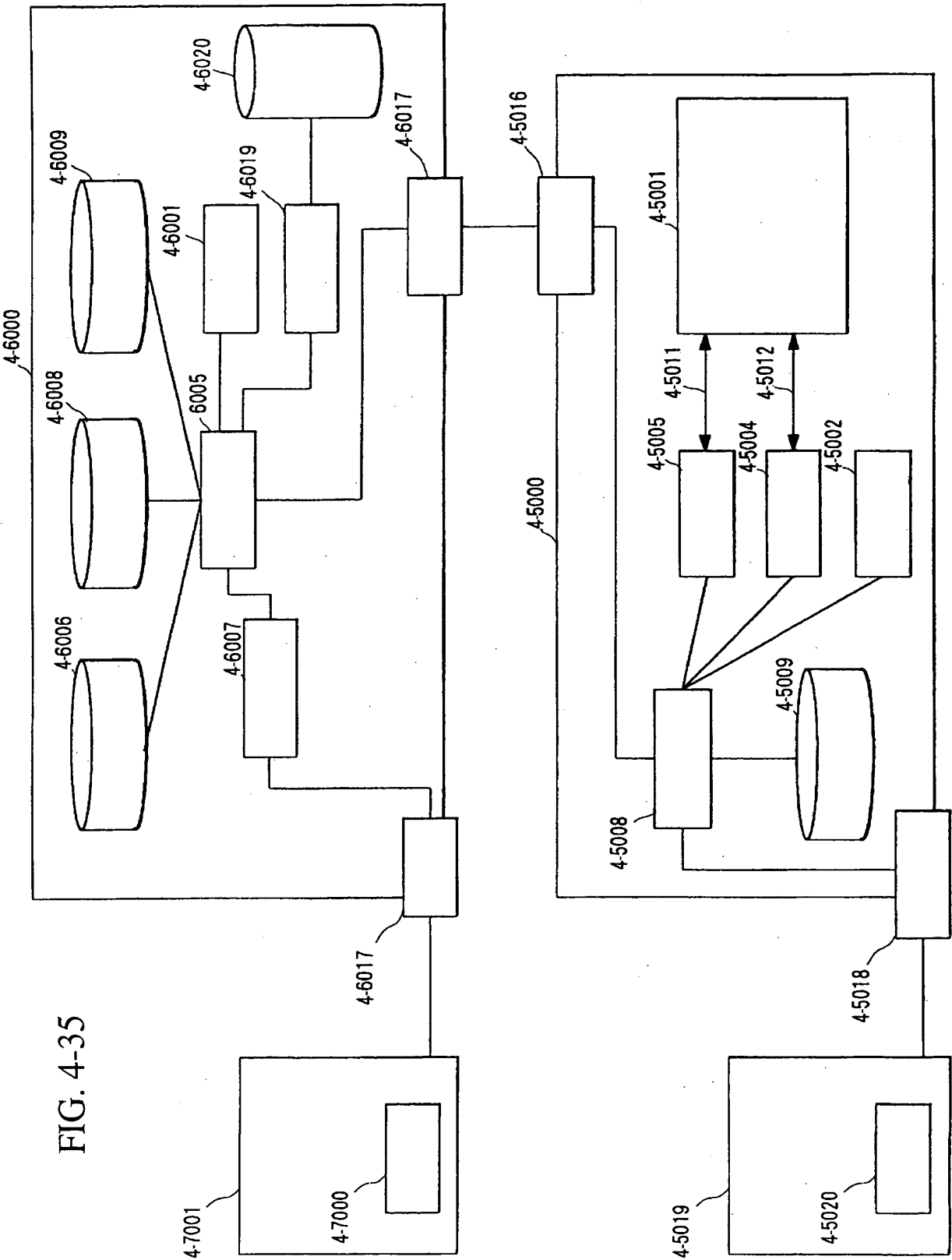
4-12001	4-12002	4-12000
Status bits	Network-node equipment status	
000	Initial status	
001	Topology reconfiguration reserved status	
010	Completion of acceptance of topology reconfiguration request from other network-node equipment status	
011	Rejection of topology reconfiguration request from other network-node equipment status	
100	Completion of reception of wavelength and reconfiguration clock-time class status	
101	Completion of reconfiguration to new wavelength status	

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FIG. 4-34







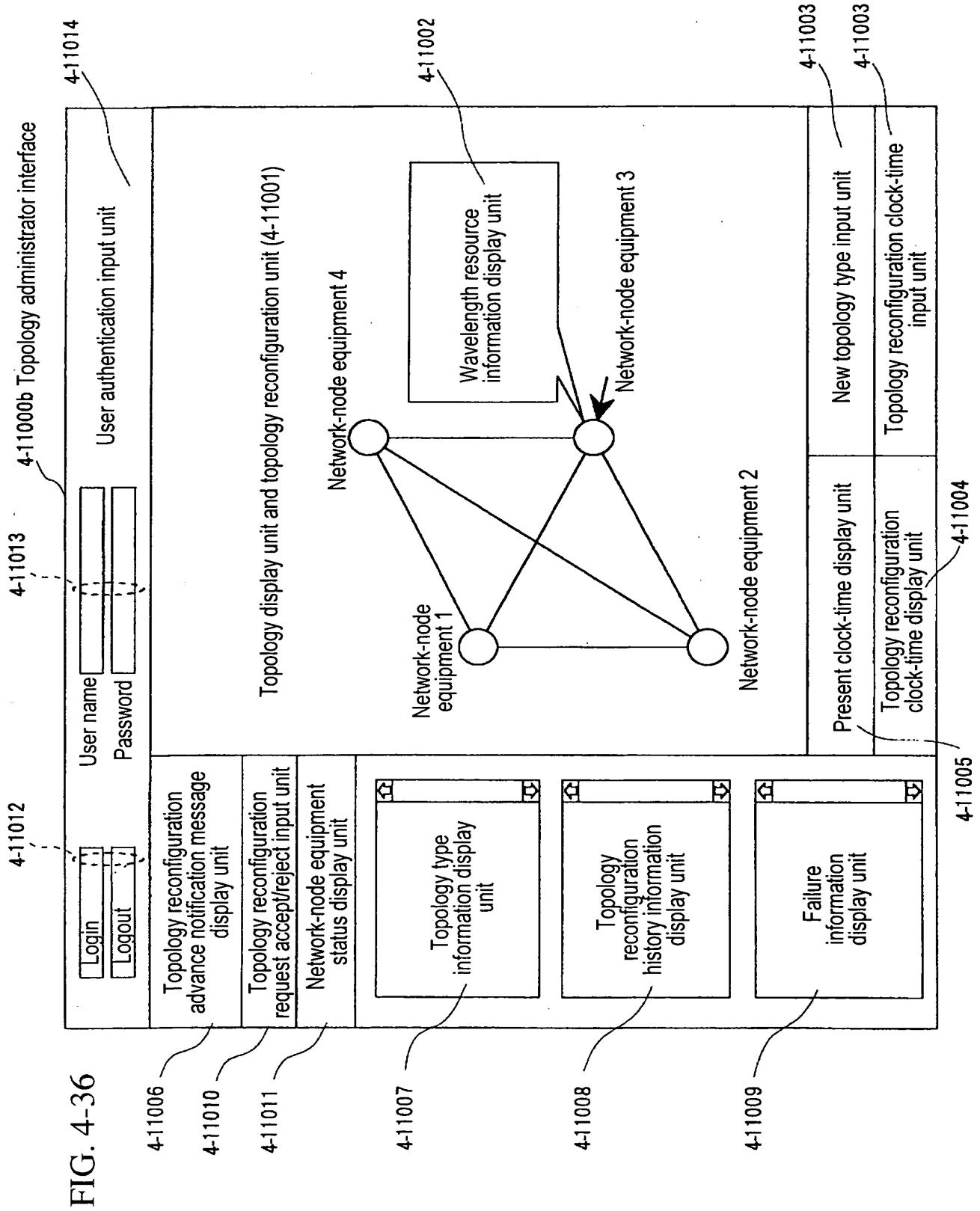


FIG. 4-37

